

The image features a large, stylized 'OZAR' logo at the top, with the 'O' in orange and the 'ZAR' in a dark, textured font. Below the logo, the background is a solid orange color with a subtle, wavy white line near the bottom. The text is arranged in two columns, with the left column containing three paragraphs and the right column containing two paragraphs. The overall design is clean and professional, emphasizing the brand name and its commitment to quality and innovation.

Ozar, the international tool brand from the house of **ALOK INTERNATIONAL** is shaping the future of high-quality tools with innovation and dynamic strides.

Winning the trust of millions of users worldwide with an incessant zeal for innovation, upgradation, new technology applications and quality-quotient enhancement, **Ozar** is setting benchmarks for the international tool industry.

Providing an ever-increasing "range" of high-quality tools and optimizing customer satisfaction have been instrumental in making **Ozar** the preferred single source of quality-conscious tool users, across the globe.

Ozar 's strong Manufacturing Program is well complemented by aggressive, modern marketing techniques. The entire product range has been categorized into four exclusive categories, each being top-of-the line in its class - Precision Tools, Cutting Tools, Industrial Tools and Hand & DIY Tools.

The Packaging of each category is unique; the attractive multi-colour designs conform to international standards - including bar-coding for customer convenience. **Ozar** is available at various leading Industrial Tool Distributors, located in all continents.

Ozar is consistently maintaining stringent International Standards of Quality, Safety and Accuracy. A pioneer in tool exports from India, **Ozar** has registered consistent growth year after year and excelled as the leader in Indian tool exports world over.

As a world-class Tool Company, it has been an esteemed participant at all leading fairs and Tools Industry meets of the world. Close contacts with customers and personal visits by experts add more to the customer experience. Exclusive global presence and international exposure make **Ozar** the true frontrunner in the international markets too.

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WZAR



PRECISION TOOLS



1 | PRECISION V BLOCK AND CLAMP SET

Product Description

- All sides are ground square and parallel to each other
- V's are central, parallel and square and are matched in pairs
- Made of properly heat treated and hardened tool steel
- Precision made for machinist's and tool-makers use
- AVB 0538 & 39 are sturdy V-Blocks designed so that clamps do not protrude over the sides
- Supplied in pairs with two clamps
- Replacement clamps include pair of clamps and bolts

Technical Description

Geometrical Accuracy as per BS 3731/DIN 2274 Grade 2

- Permissible height difference for matched pair within .0003" or 8 microns
- Parallelism tolerance of Vee axis to base within .0004" or (10+L/50) microns
- Perpendicularity tolerance of end and side faces to base within .0005" or (10+H/25) microns



AVB0397-0537



AVB0538-0539

CAT NO.	LENGTH X WIDTH X HEIGHT		CLAMPING CAPACITY		UNIT OF PACK
	INCH	MM	INCH	MM	
AVB-0397	1-5/8 x 1-1/4 x 1-1/4	40 x 32 x 32	1	25	15
AVB-0396	2 x 1-1/2 x 1-1/2	50 x 38 x 38	1-1/2	38	12
AVB-0399	1-3/4 x 1-5/8 x 1-3/8	45 x 40 x 35	1-3/8	35	6
AVB-0537	2-3/4 x 1-3/4 x 1-5/8	70 x 45 x 40	1-1/2	38	4
AVB-0538	2-3/4 x 2-1/2 x 1-3/4	70 x 63 x 45	1-1/2	38	4
AVB-0539	4-7/8 x 3-1/2 x 2-3/4	125 x 88 x 70	2-1/8	54	1
AVB-0541	2 x 1-5/8 x 2	50 x 40 x 50	1-3/8	35	4
AVB-0542	3 x 2-1/8 x 2-1/8	75 x 55 x 55	2	50	2
AVB-0543	4 x 3 x 3	100 x 75 x 75	2-3/4	70	1



AVB0541-0543

2

PRECISION V-BLOCK AND CLAMP-ALL ANGLE

- Product Description

 - Ultimate V-Block for grinding, milling or drilling work
 - Made of hardened and precision ground tool steel
 - The sides are parallel and vee is central and ground
 - Central hole is provided for drilling or removing pins
 - Clamp is smaller than outside width of the V-Block and has adjustable side screw for support
 - V-Block has four 3/8-16 tapped holes two in the base and one on each side for angle iron clamping
 - Block is provided with black oxidized clamp

- Technical Description

 - Parallelism tolerance of Vee Axis to base within .0003”/8 microns



CAT NO.	CAT NO. CLAMP PAIR	LENGTH X WIDTH X HEIGHT		HOLDING CAPACITY		UNIT OF PACK
		INCH	MM	INCH	MM	
AVB-0544	ACV-5516	3-5/8 x 1-7/8 x 1-7/8	92 x 48 x 48	1-5/16	33	6

3

PRECISION V BLOCK AND CLAMP SET – MULTI USE

- Product Description

 - Multi-Use : holds both square and round work
 - Stepped groove construction permits both low and high clamping
 - Side hole-provided in each block to facilitate clamping
 - Made of hardened tool steel, machined and ground in pairs
 - Supplied in ‘pairs’ with two clamps
 - Capacity : 2” (50 mm) round and 1-7/16” (36.5 mm) square

CAT NO.	LENGTH X WIDTH X HEIGHT		UNIT OF PACK
	INCH	MM	
AVB-0545	2-3/8 x 2-3/4 x 2	60 x 70 x 50	4



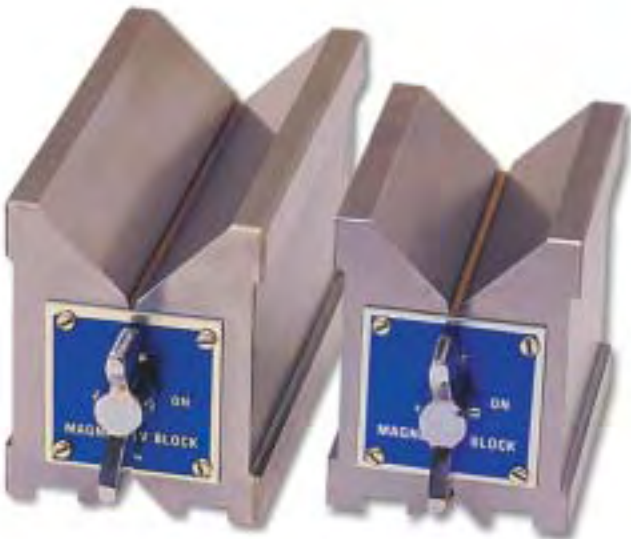
4 | MAGNETIC V BLOCK-DUAL VEE

Product Description

- All working surfaces are precision ground
- Ideal for holding, inspection and light machining
- A powerful, permanent magnet is controlled by rotary ON/OFF switch
- Supplied in fine finished wooden box

Technical Description

- Parallelism tolerance of Vee Axis to base within .0004"/10 microns



CAT NO.	LENGTH		WIDTH		HEIGHT		V-WIDTH				UNIT OF PACK
	INCH	MM	INCH	MM	INCH	MM	BIG V		SMALL V		
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	
AVB-6550 (Single)	2-3/16	55	1-3/4	45	1-15/16	50	1	25	1/2	13	10
AVB-0654 (Single)	2-3/4	70	2-1/8	54	2-7/8	73	1-1/2	38	3/4	19	4
AVB-0665 (Single)	4	100	2-3/4	70	3-3/4	95	2	50	3/4	19	1
AVB-0666 (Pair)	4	100	2-3/4	70	3-3/4	95	2	50	3/4	19	1
AVB-0655 (Single)	6	150	3	75	3-3/4	95	2-1/4	55	1	25	1

5 | MAGNETIC CHUCK PARALLEL AND UNIVERSAL V-BLOCKS

Product Description

- Ground steel used for highest magnetic transfer and is cast integrally with aluminium
- Parallels are ground all over
- V-Blocks are universal

CAT NO.	DESCRIPTION	SIZE		UNIT OF PACK
		INCH	MM	
AMP-0660	One Pair Magnetic Chuck Parallel	1 x 2 x 4	25.4 x 50.8 x 101.6	10
AMP-0661	One Pair Magnetic Chuck V-Block	1-7/8 x 2-3/8 x 2 Large V Capacity : 2" Round Small V Capacity: 1/2" Round	47.6 x 60.3 x 50.8 Large V - Capacity : 50.8 Round, Small V Capacity : 12.7 Round	10
AMP-0662	One Magnetic Chuck Long V-Block	1-7/8 x 2-3/8 x 4-3/8 Large V Capacity : 2" Round, Small V Capacity: 1/2" Round	47.6 x 60.3 x 111 Large V-Capacity : 50.8 Round, Small V Capacity : 12.7 Round	6
AMP-0664	One Pair Magnetic Chuck Long V-Block.			4
AMP-0663	Combination Set of AMP-0660 and AMP-0661.			4



6

CASTED V-BLOCKS

- Product Description

 - Made of high quality seasoned castings
 - Blocks are accurately ground square and parallel
 - Supplied in matched and numbered pairs
- Technical Description

 - Parallelism tolerance of Vee Axis to base per 6" length within 30 microns/.0012"
 - Squareness tolerance of Vee Axis to end faces within 25 microns/.001"



CAT NO.	LENGTH		HEIGHT		THICKNESS OF EACH BLOCK		WIDTH OF VEE		UNIT OF PACK
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	
AVB-0627	2	50	1-1/4	32	1	25	1	25	15
AVB-0643	3	75	2-3/8	60	1-1/4	32	1-3/4	44	6
AVB-0644	4	100	2-5/8	65	1-5/8	41	2	50	5
AVB-0645	5	125	3-1/8	80	2	50	2	50	1
AVB-0646	6	150	3-1/2	90	2-1/2	63	3-1/4	82	1
AVB-0647	7	180	4-1/2	115	3	75	3-1/2	90	1
AVB-0648	8	205	5-1/2	140	4	100	4	100	1
AVB-0649	10	255	6-5/8	168	5	125	5	125	1
AVB-0653	12	305	8	205	7	180	6-1/2	165	1

7

QUADRUPLE V-BLOCKS

- Product Description

 - Made from seasoned closed grained cast iron
 - Universal V-Block consisting of four different size grooves
 - Supplied in pairs

- Technical Description

 - Parallelism tolerance of Vee Axis to base per 6" length within 30 microns/.0012"
 - Squareness tolerance of Vee Axis to end faces within 25 microns/.001"

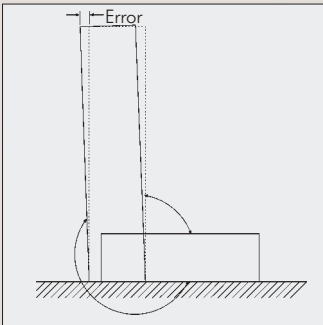


CAT NO.	LENGTH		HEIGHT		THICKNESS		WIDTH OF VEE		UNIT OF PACK
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	
AVB-2930	3.3/4	95	2.3/4	70	1.3/8	35	3/4x1-3/16x1-9/16 x 2	20x30x40x50	4
AVB-2931	4	100	4	100	1.3/16	30	3/4x1-3/16x1-9/16x2	20x30x40x50	4
AVB-2932	4.3/4	120	4.3/4	120	1.3/8	35	1-3/16x1-9/16x2x2-3/8	30x40x50x60	2
AVB-2933	4.3/4	120	4.3/4	120	2.3/8	60	1-3/16x1-9/16x2x2-3/8	30x40x50x60	2
AVB-2934	6	150	6	150	3	75	1-9/16x2x2-3/8x2-3/4	40x50x60x70	1
AVB-2935	8	200	8	200	4	100	2-3/8x2-3/4x3-5/32x4	60x70x80x100	1

8 | PRECISION STEEL SQUARES

Product Description

- Made of finest quality ground steel with heavy thick stock
- Blade is hardened and ground for straightness and parallelism
- Squares are accurate both inside and outside
- Sizes 18" (450 mm) and above are supplied in wooden box
- Effective blade length measured from inner edge of the beam to end of the blade



A. Squareness to DIN 875/II



CAT NO.	EFFECTIVE BLADE LENGTH		STOCK LENGTH		SQUARENESS OF BLADE TO WORKING FACE	UNIT OF PACK
	INCH	MM	INCH	MM		
AMS-0555	1	25	1.5	38	.001/25 microns	50
AMS-0156	2	50	2.0	50	.001/25 microns	40
AMS-0157	3	75	2.5	63	.001/25 microns	25
AMS-0158	4	100	3.0	75	.001/25 microns	15
AMS-0155	5	125	3.5	90	.001/25 microns	10
AMS-0159	6	150	4.0	100	.001/25 microns	8
AMS-0160	8	200	5.0	127	.0015/38 microns	6
AMS-0161	9	225	6.0	150	.0015/38 microns	6
AMS-0162	10	250	6.0	150	.002/50 microns	6
AMS-0163	12	300	8.0	200	.002/50 microns	6
AMS-0164	18	450	10.0	254	.0038/96 microns	1
AMS-0165	24	600	13.0	330	.0038/96 microns	1
AMS-0209	36	915	17.5	445	.0045/115 microns	1
AMS-2273	2 PC Square Set consisting of lengths 9" (225 mm) and 12" (300 mm)					4
AMS-5533	4 PC Square Set consisting of lengths 2" (50 mm), 3" (75 mm), 4" (100 mm) and 6" (150 mm)					4
AMS-5534	4 PC Square Set consisting of lengths 4" (100 mm), 6" (150 mm), 9" (225 mm) and 12" (300 mm)					2

B. Squareness to DIN 875/I or BS939B

CAT NO.	EFFECTIVE BLADE LENGTH		STOCK LENGTH		SQUARENESS OF BLADE TO WORKING FACES	UNIT OF PACK
	INCH	MM	INCH	MM		
AMS-5550	2	50	2	50	.00063"/16 microns	40
AMS-5551	3	75	2-3/8	60	.00063"/16 microns	25
AMS-5552	4	100	3	75	.00063"/16 microns	10
AMS-5553	6	150	4	100	.00063"/16 microns	10
AMS-5535	4 PC Square Set consisting of lengths 2" (50 mm), 3" (75 mm), 4" (100 mm) and 6" (150 mm) in wooden box					4
AMS-5536	3 PC Square Set consisting of lengths 2" (50 mm), 4" (100 mm) and 6" (150 mm) in wooden box					4

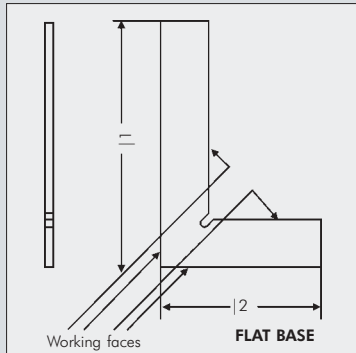
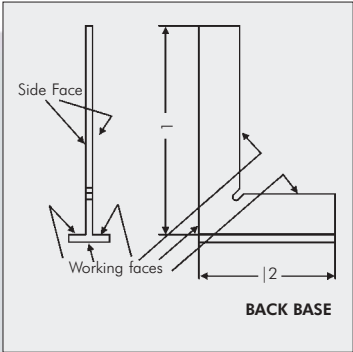


9 | PLATED STEEL SQUARES

Product Description

- Made from special steel
- Ground and then zinc coated to prevent rust
- Dimensions as per DIN standard
- Squareness of working surface $40+L_1/10$ microns
- Available in flat style and with back

CAT NO. FOR FLAT BASE	CAT NO. FOR BACK BASE	SIZE MM $L_1 \times L_2$	UNIT OF PACK
AMS-6600	AMS-6580	100 x 70	15
AMS-6601	AMS-6581	150 x 100	8
AMS-6602	AMS-6582	200 x 130	6
AMS-6603	AMS-6583	250 x 160	6
AMS-6604	AMS-6584	300 x 180	5
AMS-6605	AMS-6585	400 x 230	2
AMS-6606	AMS-6586	500 x 250	1
AMS-6607	AMS-6587	600 x 300	1



ZINC COATED

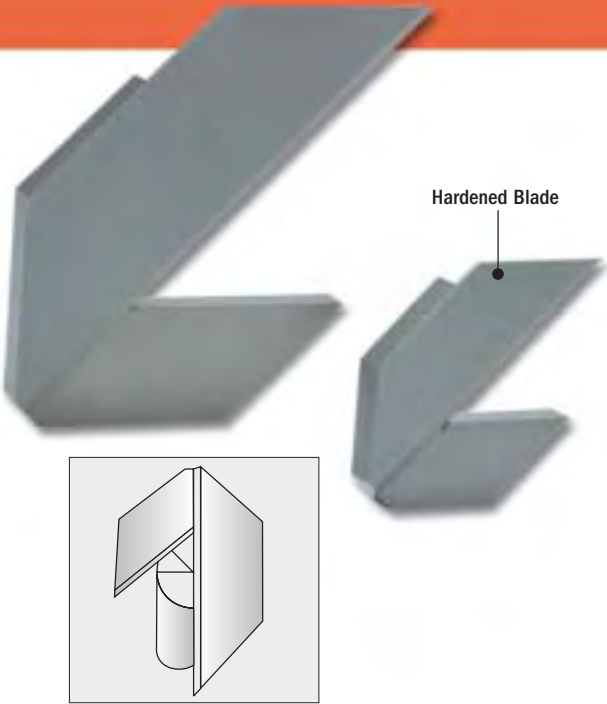


|10| CENTER SQUARE

Product Description

- Made from ground tool steel
- Hardened and tempered blade
- Useful square for rapid location of round bar or disc center
- To execute place the round bar between the center square. Scribe different lines on the workpiece each time changing its position. Center of the scribed lines will give the accurate center of the work piece

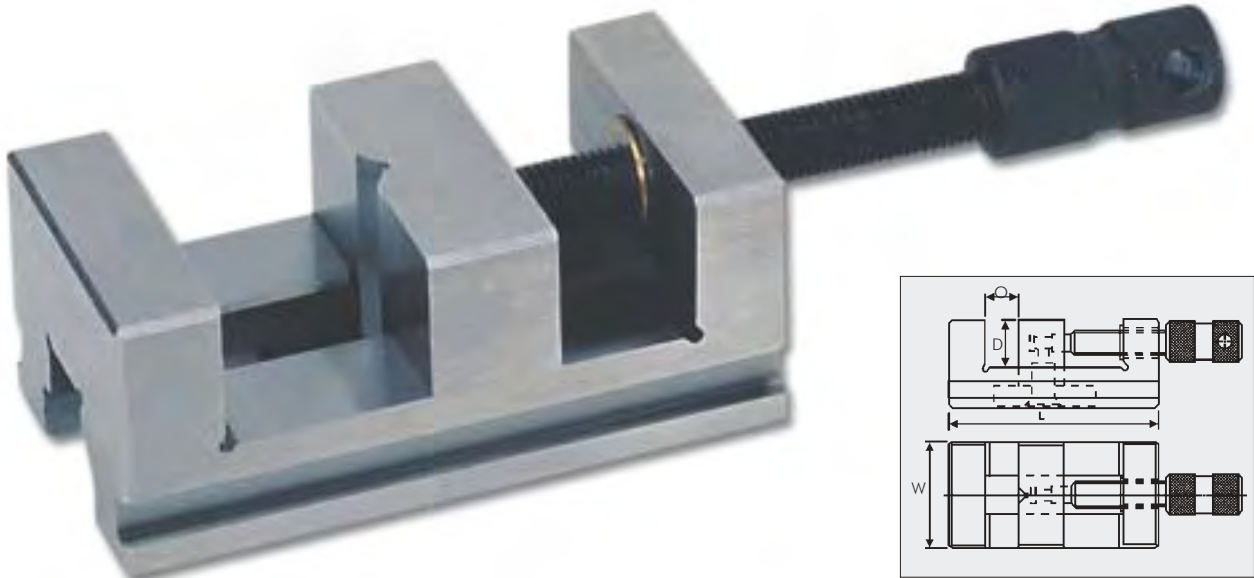
CAT NO.	WORK DIAMETER		UNIT OF PACK
	INCH	MM	
ACS-2256	1-1/2	38	40
ACS-2257	3	75	12



|11| TOOLMAKERS PRECISION STEEL VISE

Product Description

- Made from hardened alloy steel
- Single piece construction with V-grooved jaws
- All surface including jaws and base are precise ground square and parallel
- Clamping slots at the bottom easily affix to angle plates, etc.



CAT NO.	JAW WIDTH W		JAW DEPTH D		JAW OPENING O		BODY LENGTH L		WEIGHT		UNIT OF PACK
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	LBS	KG	
AVP-0459	1	25	1/2	12.7	1-5/8	40	2-7/8	74	0.5	0.20	10
AVP-0469	2-3/8	60	1	25	2-1/8	54	4-3/8	110	3.3	1.5	6
AVP-0507	3	75	1-9/16	40	3	75	7-7/8	200	11.5	5.25	1

12 TOOLMAKERS PRECISION SCREWLESS VISE

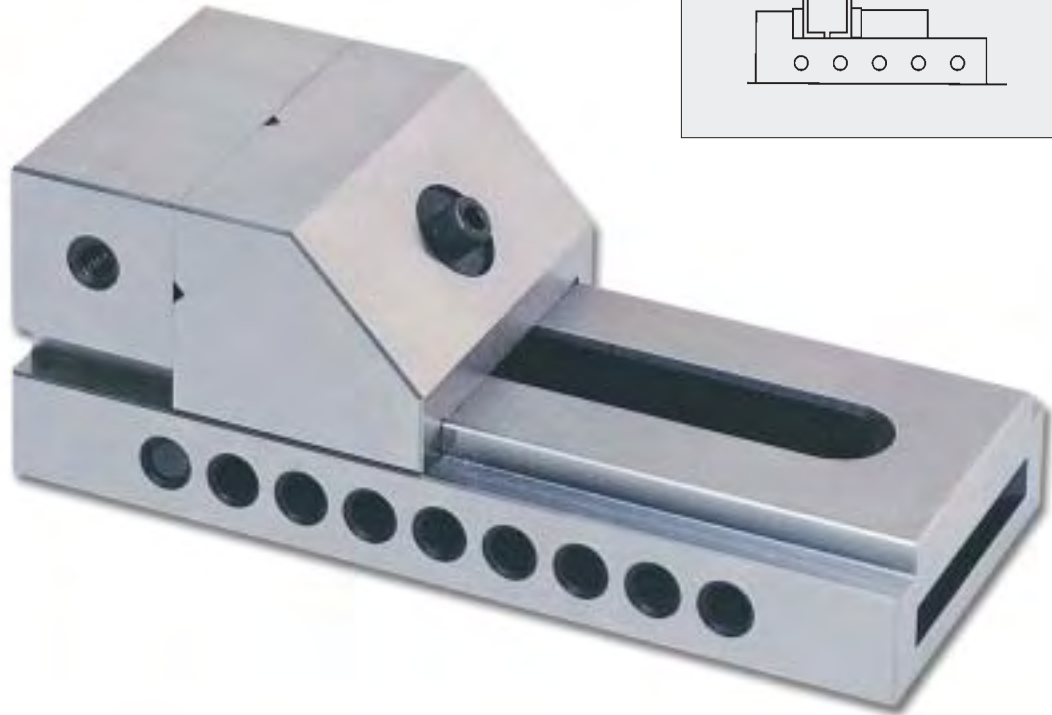
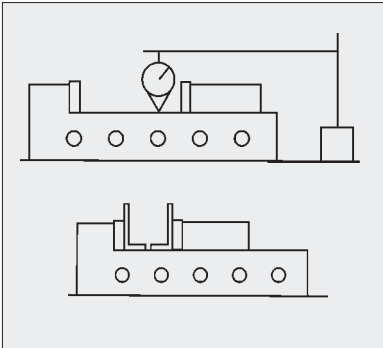
Product Description

- Hardened and precision ground steel vise
- Positive download and rapid positioning notches for free jaw movement
- Threaded hole on both sides of stationary jaw
- Horizontal and vertical V in moveable jaw

Technical Description

- Parallelism of Vise bed to Vise base within 8 microns/.0003"
- Squareness of Vise jaws to Vise bed within 12 microns/.0005"

CAT NO.	JAW WIDTH		JAW DEPTH		JAW OPENING		TOTAL LENGTH		WEIGHT		UNIT OF PACK
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	LBS	KG	
AVP-0375	1	25	3/4	19	1-7/8	47	3-15/16	100	0.9	0.4	8
AVP-0382	1-1/2	38	3/4	19	3-3/8	85	5-13/16	145	2.0	0.9	8
AVP-0467	2	50	1-1/16	30	3-1/8	80	6	150	4.15	1.9	4
AVP-0468*	3	75	1-3/8	35	3-3/4	95	7	175	7.45	3.4	1



13

SCREW PITCH GAGE

- Product Description

 - Very handy gage to quickly determine the pitch of various threads
 - Made of high quality polished tool steel
 - Features a locking device at both ends to securely lock the leaves
 - All leaves clearly marked with size
 - Comes in a plastic pouch

CAT NO.	TPI RANGE	NO. OF LEAVES	THREAD TYPE	UNIT OF PACK
AGS-1114	4-42	31	American National UNC/UNF - 60°	50
AGS-1117	4-84	52	American National UNC/UNF - 60°	40
AGS-1116	4-42 & 0.25 to 6.0 mm	31 + 24 = 55	Combination of American National 60° and Metric 60° threads.	40
AGS-1115	0.25 to 2.5 mm	28	International Metric Standard 60°	50
AGS-1119	0.25 to 6.0 mm	23	International Metric Standard 60°	50
AGS-1118	4 to 62 & 0.25 to 6.0 mm	28 + 24 = 52	Combination of whitworth Standard 55° and Metric Standard 60°	40
AGS-1120	4 - 62 G	28	Whitworth Standard 55°	50

14

RADIUS GAGE

- Product Description

 - Handy device for checking radii of tools and dies easier and faster
 - Gage features leaves for measuring both concave and convex radii
 - Each leaf is clearly stamped with the radius size
 - AGR-2253 features blades locked with 2 screw (not illustrated)

CAT NO.	RANGE	NO. OF LEAVES	UNIT OF PACK
LOCKING TYPE			
AGR-1109	1/32 to 1/4 by 1/64"	30	40
AGR-1110	17/64 to 1/2 by 1/64"	32	30
AGR-2258	1 to 7 mm	34	40
AGR-2259	7.5 to 15 mm	32	30
AGR-2260	15.5 to 25 mm	30	30
AGR-2252	0.75 to 5 by 0.25 mm	18	40
AGR-2253	5.5 to 13 by 0.5 mm	16	40
RING TYPE			
AGR-2248	1/32 to 17/64 by 1/64"	16	20
AGR-2249	9/32 to 33/64 by 1/64"	16	20
AGR-2250	0.75 to 5 by 0.25 mm	18	20
AGR-2251	5.5 to 13 by 0.5 mm	16	20
STAINLESS STEEL			
AGR-6058	1 to 7 mm	34	40
AGR-6059	7.5 to 15 mm	32	30
AGR-6060	15.5 to 25 mm	30	30



15 UNIVERSAL GRINDING GAGE

Product Description

- Made of polished stainless steel
- Clearly etched graduations
- Combines twist drill grinding gages, thread gage
- Measures square and hexagonal angles of 120°, 118°, 90°, 60°, 55°

CAT NO.	OVERALL LENGTH		UNIT OF PACK
	INCH	MM	
AGG-2377	3-3/4	95	50



16 TWIST DRILL GRINDING GAGE

Product Description

- For twist drills with acute angle of 118° upto 2" (50 mm) diameter

CAT NO.	OVERALL LENGTH		UNIT OF PACK
	INCH	MM	
AGG-2376	4-1/2	114	30



17 WIRE GAGE - ROUND

Product Description

- Popular gage for gaging iron wire, hot and cold rolled sheet steel
- Made from polished stainless steel
- Gages have a convenient decimal equivalents of each number
- Clear permanently etched graduations in English or U.S. standard

CAT NO.	DESCRIPTION	STANDARD	UNIT OF PACK
AGW-1987	Round	English	25
AGW-1988	Round	U.S.	25

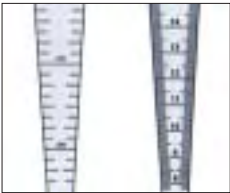


|18| BORE GAGE - INCH/MM

Product Description

- Handy gage for measuring cylindrical bores, bearing work and for gaging slots
- Made from polished stainless steel
- Clearly etched graduations for inch on one side and mm on the other one

CAT NO.	RANGE MM	RANGE INCH	UNIT OF PACK
AGB-0359	1 to 16	1/32 - 5/8	75



LC = 1/64" LC = 0.1mm

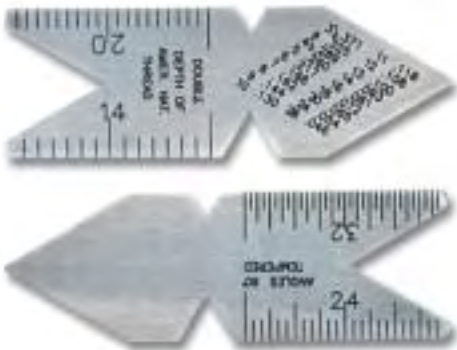


|19| CENTER GAGE

Product Description

- Very handy gage used in grinding and setting screw cutting tools
- Made of tempered stainless steel
- Clearly etched scale for finding number of threads per Inch through graduations in 14ths, 20ths, 24ths and 32nds of an inch
- Gage also features a table of double depth of thread for determining size of tap drills
- Supplied in a plastic pouch

CAT NO.	DESCRIPTION	UNIT OF PACK
AGC-0038	American Unified National Standard 60°	200
AGC-0363	Whitworth or English Standard 55°	200



|20| SCREW CUTTING GAGE

Product Description

- Made from stainless steel
- Clearly etched graduation
- Used for gaging thread profiles 47-1/2° British association, 14-1/2° acme, 60° American and metric, 55° whitworth and BSF

CAT NO.	OVERALL LENGTH		UNIT OF PACK
	INCH	MM	
AGC-2254	2	50	50



21 | EDGE AND CENTER FINDERS

Product Description

- Hardened and centerless ground to precision tolerance
- Locate working edges like shoulders, centering points and scribed lines easily & accurately
- Time saving positioning tool for jig borers and other machines

Technical Description

- In use, the edge finder is placed in a collet or chuck. The head moves sideways about 1/32 in. as the collet or chuck rotates and approaches the edge of the work, and the center of the finder is exactly one-half the head diameter away from the edge of the work.

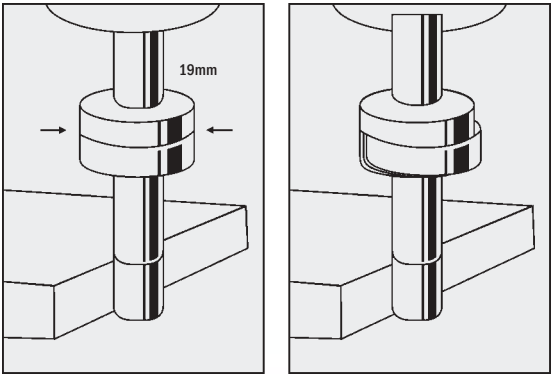
CAT NO.	SHANK DIAMETER	TIP DIAMETER	DESCRIPTION	UNIT OF PACK
AEF-0130	1/2"	.5000"	Plain Edge Finder Single End	75
AEF-0132	1/2"	.2000"	Edge Finder Double End	75
AEF-0133	3/8"	.2000"	Edge Finder Single End	75
AEF-0134	1/2"	.2000" & .5000"	Combination Edge and Center Finder	75
AEF-0135	3/8"	.2000" & .3730"	Combination Edge and Center Finder	75
AEF-0136	1/2"	.2000"	Edge Finder Single End	75
AEF-0137	3/8"	.3750"	Center Finder Single End	75
AEF-0138	1/2"	.5000"	Center Finder Single End	75
AEF-0152	10 mm	10 mm	Plain Edge Finder Single End	75
AEF-1942	12 mm	5 mm	Edge Finder Single End	75
AEF-5539	10 mm	10 mm and 5 mm	Edge Finder Double End	75
AEF-5540	4 PC Set of 130, 132, 133, 134			15
AEF-5541	4 PC Set of 135, 136, 137, 138			15
AEF-5542	6 PC Set of 130, 132, 133, 134, 135, 136			10
AEF-2267	8 PC Set of 130, 132, 133, 134, 135, 136, 137, 138			5





|22| COMBO EDGE FINDER

CAT NO.	SHANK DIAMETER	TIP DIAMETER	DESCRIPTION	UNIT OF PACK
AEF-5544	10 mm	10 mm	Edge Finder Double End	25
AEF-5545	10 mm	4 mm	Edge Finder Double End	25



|23| WIGGLER AND CENTER FINDER SET

Product Description

- For accurately locating working points on drill presses, lathes, milling and other machines
- Set consists of snap in holder, needle point attachment, ball contact attachment, disc contact attachment and off set indicator holder
- Available in attractive plastic pouch

CAT NO.	UNIT OF PACK
AWS-0470	15



24 | FLAT LEG DIVIDERS AND CALIPERS

Product Description

- All dividers and calipers are made of high grade polished steel
- Legs are well finished and balanced
- Spring is hardened and tempered
- Solid nut and washer permits fast and positive adjustment
- Heat treated points to give accurate measurement

CAT NO. DIVIDERS	CAT NO. INSIDE	CAT NO. OUTSIDE	NOMINAL SIZE		UNIT OF PACK
			INCH	MM	
ADS-0090	ACS-0100	ACS-0110	3	75	10
ADS-0091	ACS-0101	ACS-0111	4	100	6
ADS-0100	ACS-0120	ACS-0119	5	125	6
ADS-0092	ACS-0102	ACS-0112	6	150	36
ADS-0093	ACS-0103	ACS-0113	8	200	6
ADS-0098	ACS-0108	ACS-0118	10	250	6
ADS-0094	ACS-0104	ACS-0114	12	300	6
ADS-0095	ACS-0105	ACS-0115	18	450	6
ADS-0096	ACS-0106	ACS-0116	24	600	6
ADS-0097	ACS-0107	ACS-0117	36	900	6
ADS-0099	ACS-0072	ACS-01093 Pc Set of 4" (100 mm), 6" (150 mm) and 8" (200 mm)			

Divider and Caliper Sets

Product Description

- 3 Pc set consist of one each of divider, inside caliper and outside caliper

CAT NO.	NOMINAL SIZE		UNIT OF PACK
	INCH	MM	
ADC-5131	4	100	12
ADC-5132	6	150	12
ADC-5133	8	200	6
ADC-5134	10	250	6
ADC-5135	12	300	4
ADC-5138	18	450	1

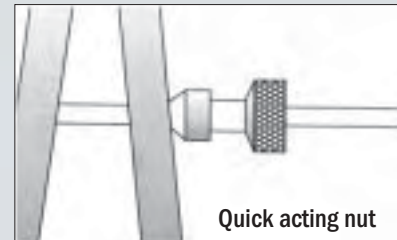


25 | SQUARE LEG SPRING DIVIDERS AND CALIPERS – PRECISION

Product Description

- Professional grade dividers and calipers with rugged construction
- Legs made from heavy square stock machined to smooth taper
- Hardened and ground measuring points
- Quick spring nut for making quick positive adjustments

CAT NO. DIVIDERS	CAT NO. INSIDE	CAT NO. OUTSIDE	NOMINAL SIZE		UNIT OF PACK
			INCH	MM	
ADP-1410	ACP-2378	ACP-2379	3	75	60
ADP-1411	ACP-2430	ACP-2441	4	100	60
ADP-1412	ACP-2431	ACP-2442	5	125	60
ADP-1413	ACP-2432	ACP-2443	6	150	40
ADP-1414	ACP-2433	ACP-2444	7	175	30
ADP-1415	ACP-2434	ACP-2445	8	200	30
ADP-1416	ACP-2435	ACP-2446	9	225	30
ADP-1417	ACP-2436	ACP-2447	10	250	30
ADP-1418	ACP-2437	ACP-2448	12	300	25
ADP-2403	ACP-2438	ACP-2449	16	400	10
ADP-2404	ACP-2439	ACP-2450	20	500	5
ADP-5642	ACP-5640	ACP-5641	40	1000	5



26 | SQUARE LEG DIVIDERS – HEAVY DUTY

Product Description

- High quality thick dividers
- Square legs for balance and grip
- Hardened and ground points

CAT NO. RIVET JOINT	NOMINAL SIZE		UNIT OF PACK
	INCH	MM	
ADP-1311	6	150	80
ADP-1312	7	175	30
ADP-1313	8	200	30
ADP-1314	10	250	30
ADP-1315	12	300	30
ADP-1316	16	400	10
ADP-1337	20	500	10
ADP-5780	24	600	10
ADP-5781	32	800	10
ADP-1356	40	1000	10



27 | SQUARE LEG WING DIVIDERS – HEAVY DUTY

CAT NO. RIVET JOINT	NOMINAL SIZE		UNIT OF PACK
	INCH	MM	
ADP-1317	6	150	30
ADP-1318	7	175	30
ADP-1319	8	200	30
ADP-1320	10	250	30
ADP-1321	12	300	30
ADP-1322	16	400	10
ADP-1338	20	500	10
ADP-5786	24	600	5
ADP-5787	32	800	5
ADP-1340	40	1000	5

|28|

SQUARE LEG PENCIL HOLDERS – HEAVY DUTY

- Product Description

 - Made of forged steel
 - Rivet joint
 - Square leg and hardened tips
 - Polished finish
 - Available in single point and two points

CAT NO. FOR SINGLE POINT	CAT NO. FOR TWO POINTS	NOMINAL SIZE		UNIT OF PACK
		INCH	MM	
ADP-1405	ADP-1965	6	150	30
ADP-1406	ADP-1966	7	175	30
ADP-1407	ADP-1967	8	200	30
ADP-1408	ADP-1968	10	250	30
ADP-1409	ADP-1969	12	300	30
ADP-5771	ADP-1970	16	400	10
ADP-5772	ADP-1976	20	500	10
ADP-5773	ADP-1971	24	600	5
ADP-5774	ADP-1972	32	800	5
ADP-5775	ADP-1973	40	1000	5



|29|

FLAT LEG PENCIL HOLDERS

- Product Description

 - Made from high grade polished steel
 - Spring is hardened and tempered
 - Heat treated points to give accurate measurement
 - Ideal tool for laying out the distance between two points and marking areas and circles

CAT NO.	NOMINAL SIZE		UNIT OF PACK
	INCH	MM	
ADP-5644	6	150	30
ADP-5645	8	200	30
ADP-5646	10	250	30
ADP-5647	12	300	30
ADP-5648	18	450	10
ADP-5649	24	600	10



30 DIVIDERS AND CALIPERS – FIRM JOINT

Product Description

- Firm joint to adjust tension as desired
- Legs machined to rigid length and balance

SIZE		FIRM SCREW JOINT DIVIDER	UNIT OF PACK	RIVET JOINT INSIDE	UNIT OF PACK	RIVET JOINT OUTSIDE	UNIT OF PACK
INCH	MM						
4	100	ADJ-1041	60	ACP-1045	60	ACP-1049	60
6	150	ADJ-1042	60	ACP-1421	60	ACP-1431	40
8	200	ADJ-1043	30	ACP-1422	30	ACP-1432	25
10	250	ADJ-1045	30	ACP-1423	30	ACP-1433	25
12	300	ADJ-1044	30	ACP-1424	30	ACP-1434	25
16	400	ADJ-2366	10	ACP-1425	10	ACP-1435	10
18	450	ADJ-1301	10	ACP-1304	10	ACP-1307	10
20	500	ADJ-2367	10	ACP-2422	10	ACP-2428	10
24	600	ADJ-1302	10	ACP-1305	10	ACP-1308	10
36	900	ADJ-1303	10	ACP-1306	10	ACP-1309	10
40	1000	ADJ-2368	10	ACP-2424	10	ACP-2425	10



31 HERMAPHRODITE CALIPERS

Product Description

- Used in layout works for locating and testing centers
- Properly shaped and finished legs

CAT NO.	SIZE		UNIT OF PACK
	INCH	MM	
ACH-0707	4	100	60
ACH-0708	6	150	60
ACH-0694	8	200	30



32

PROTRACTORS

- Product Description

 - Made from polished stainless steel
 - Double graduation from 0 – 180° in opposite direction
 - Rectangular head protractor provides four convenient working edges
 - Used to draw radial lines, setting bevels and transferring angles

CAT NO.	DESCRIPTION	DIMENSION		UNIT OF PACK
		INCH	MM	
APM-0965	Round Head	Ø3-1/2	Ø90	60
APM-0966	Rectangular Head	3-1/2 x2	90 x 50	60



STAINLESS STEEL

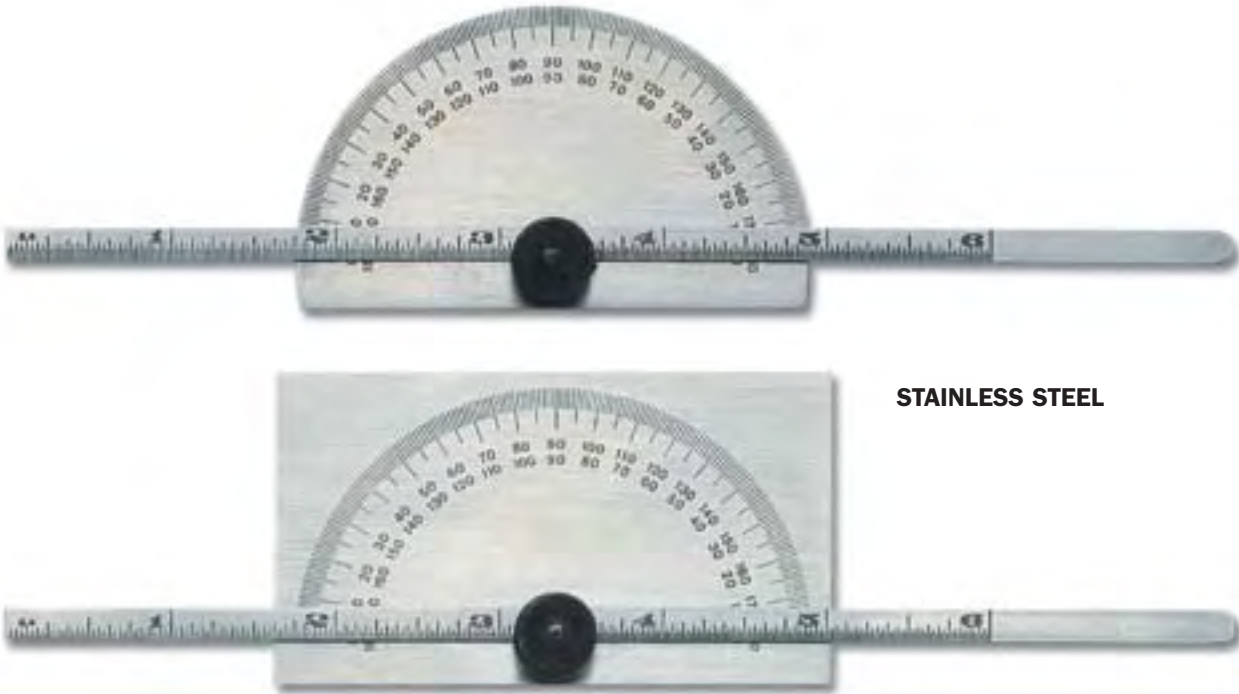
33

PROTRACTOR-CUM-DEPTH GAGE

- Product Description

 - Made from polished stainless steel
 - Graduated from 0 – 180°
 - Spring tension nut to secure rule to desired depth and angle
 - Narrow 6”/150 mm rule graduated 64th on one side and 0.5 mm at reverse

CAT NO.	DESCRIPTION	UNIT OF PACK
APM-1277	Round	30
APM-1278	Rectangular	30



STAINLESS STEEL

34 DEPTH AND ANGLE GAGES

Product Description

- Spring tension knurled nut for easy depth measurement and locking
- Fitted with 6"/150 mm stainless steel rule graduated 64th on one side and 0.5 mm on reverse
- Rule measures 7/32" (5.5 mm) wide and .041" (1.05 mm) thick
- Angular depth gage can be used as a protractor for measuring angles 15°, 30° and 45° angles which are marked on the tool

CAT NO.	LENGTH		BODY DIMENSION L x W x T		UNIT OF PACK
	INCH	MM	INCH	MM	
AGD-0963	6	150	1-1/2 x 2-1/4 x 3/16	40 x 58 x 4.5	30



35 ROUND BAR CENTER FINDER

Product Description

- Accurately and quickly locates center on round workpiece
- For execution place the tool in drill chuck or collet and line up pointer with line scribed on shaft
- Supplied with instructions

CAT NO.	SHANK DIA.		OVERALL LENGTH		UNIT OF PACK
	INCH	MM	INCH	MM	
AGC-0354	3/8	9.5	4-1/8	105	50



36

STAINLESS STEEL RULES

Product Description

- Rules manufactured from stainless steel

■

Permanently etched graduation

■

Pocket rules are provided with clip for convenience as well as dual use as a depth gage

■

Flexible inch alone are graduated 32nd on one side and 64th on the opposite side

■

Flexible inch / metric rules are graduated 16th, 32nd and 64th on one side and 0.5 and 1 mm on the opposite side

■

Flexible metric alone are graduated 0.5 mm on one side and 1 mm on the opposite side



CAT NO.	FLEXIBLE RULES		UNIT OF PACK	CAT NO.	POCKET RULES SIZE	UNIT OF PACK
	SIZE	WIDTH				
ASR-0952*	6"	15/32"	200	ASR-2541*	6"	200
ASR-0953*	6" / 150 mm	3/4"/19 mm	100	ASR-0955*	6" / 150 mm	200
ASR-0954*	12" / 300 mm	1"/25 mm	100	ASR-0967	6" / 150 mm (Narrow)	250
ASR-2542	150 mm	15 mm	200	ASR-0979	6" / 150 mm (Diagonal Cut)	100
ASR-2543	300 mm	25 mm	100			
ASR-2544*	18" / 450 mm	1"/25 mm	50			
ASR-2545*	24" / 600 mm	1"/25 mm	25			
ASR-2546*	36" / 1M	1-1/4"/30 mm	25			
ASR-5750	100 mm	13 mm	50			
ASR-5751	150 mm	13 mm	100			
ASR-5752	200 mm	13 mm	100			
ASR-5753	250 mm	13 mm	100			
ASR-5754	300 mm	13 mm	100			
ASR-5755	400 mm	13 mm	50			
ASR-5756	500 mm	18 mm	50			
ASR-5757	1000 mm	18 mm	25			
ASR-5758	1500 mm	25 mm	25			

*Conversion table etched on the back side

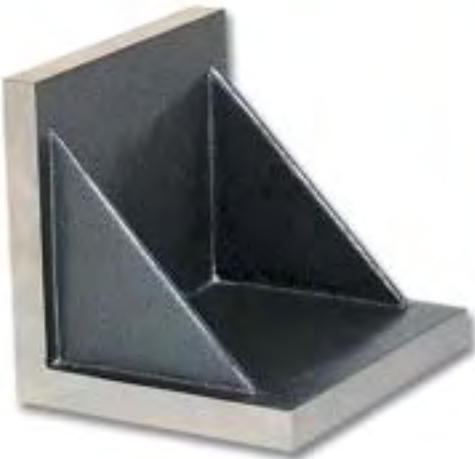
37 SOLID ANGLE PLATES

Product Description

- Made from high quality casting
- Castings are properly seasoned to avoid distortion
- Precision ground sides and ends

Technical Description

- Mutual squareness of working faces as measured over height as per BS5535 GRADE B



CAT NO. FOR GROUND FINISH	NO. OF RIBS	SIZE		SQUARENESS	UNIT OF PACK
		INCH	MM		
AAP-0692	0	1x1x1	25 x 25 x 25	.001"/25 microns	20
AAP-0684	1	2 x 2 x 2	50 x 50 x 50	.001"/25 microns	12
AAP-0685	1	3 x 3 x 3	75 x 75 x 75	.0015"/38 microns	4
AAP-0686	1	4 x 4 x 4	100 x 100 x 100	.0015"/38 microns	2
AAP-0687	1	5 x 5 x 5	125 x 125 x 125	.0015"/38 microns	1
AAP-0688	1	6 x 6 x 6	150 x 150 x 150	.0015"/38 microns	1
AAP-0689	2	8 x 8 x 8	200 x 200 x 200	.002"/50 microns	1
AAP-0690	2	10 x 10 x 10	250 x 250 x 250	.002"/50 microns	1
AAP-0691	2	12 x 12 x 12	300 x 300 x 300	.003"/75 microns	1

38 SLOTTED ANGLE PLATES

Product Description

- Made of high quality seasoned castings
- Accurately machined 90° square
- Available both in open end and webbed end styles

Technical Description

- Mutual squareness of working faces as measured over height .0016"/40micron upto 5" .002"/50 micron above 5"



CAT NO. WEBBED END	CAT NO. OPEN END	LENGTH		FIRST ANGLE		SECOND ANGLE		UNIT OF PACK
		INCH	MM	INCH	MM	INCH	MM	
AAP-0741	-	3	75	2-1/2	63	2	50	8
AAP-0742	-	3-1/2	90	3	75	2-1/2	63	6
AAP-0743	AAP-0763	4-1/2	115	3-1/2	90	3	75	4
AAP-0744	AAP-0764	6	150	5	125	4-1/2	115	1
AAP-0745	AAP-0765	7	175	5-1/2	140	4-1/2	115	1
AAP-0746	AAP-0766	8	200	6	150	5	125	1
AAP-0747	AAP-0767	9	225	7	175	6	150	1
AAP-0748	AAP-0768	10	250	8	200	6	150	1
AAP-0749	AAP-0769	12	300	9	225	8	200	1
AAP-5446	-	16	400	12	300	9	225	1
AAP-5447	-	20	500	16	400	12	300	1

|39| SURFACE GAGE – ROUND BASE

Product Description

- Sturdy construction surface gage
- Consists of adjusting knob and hardened scriber
- Round base made of close grain cast iron
- Very useful for every workshop

CAT NO.	HEIGHT		BASE DIAMETER		UNIT OF PACK
	INCH	MM	INCH	MM	
ATS-0123	12	300	3-1/8	80	4
ATS-0427	20	500	3-1/8	80	1
ATS-0428	40	1000	6	150	1



|40| SURFACE MARKING GAGE – STEEL BASE

Product Description

- Basic tool for machinist and toolmakers for accurately scribing lines, transferring measurements and probing during inspection work
- Polished and hardened steel base with double ended scriber
- Bottom V-grooved for cylindrical work
- Front recessed for depressing spindle below base level
- Has fine adjustment for precise angular movement
- Base has 2 retractable pins to set against edge of a surface plate
- 1/4" (6.35 mm) hole drilled on adjustment knob for positioning a dial indicator



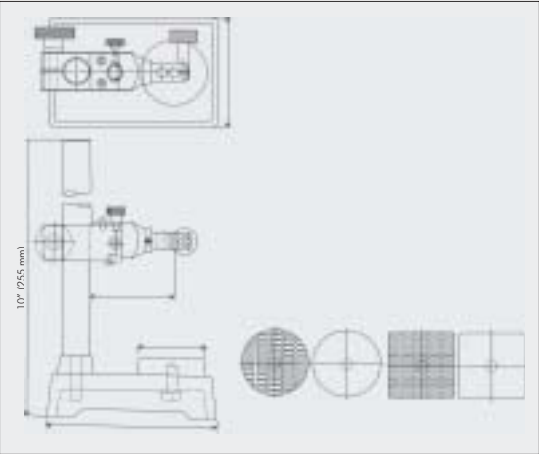
CAT NO.	BASE DIMENSION L x W x H		LENGTH OF SPINDLE		DIAMETER OF SPINDLE		UNIT OF PACK
	INCH	MM	INCH	MM	INCH	MM	
ATS-0120	2-3/16 x 1-5/8 x 3/4	55 x 40 x 20	4 & 7	100 & 175	1/4	6.35	6
ATS-0121	3-1/4 x 2-1/2 x 1	82 x 63 x 25	9 & 12	225 & 300	3/8	9.5	4
ATS-0122	4 x 3-1/2 x 1-1/8	100 x 90 x 30	12 & 18	300 & 450	3/8	9.5	4

41 | DIAL COMPARATOR STAND – FINE ADJUSTMENT

Product Description

- Compact and versatile comparator stand
- Rugged enamelled cast iron base
- Rust proof chrome plated pillar at right angle to the base
- Hardened and precise ground anvil
- Provided with fine adjustment knob for zero setting
- Suitable for all dial gages including 3/8" and 5/16" dia stem
- Base dimension : 6" x 4" (150 x 100 mm)
- Pillar diameter : 1" (25.4 mm)
- Supplied without dial gage

CAT NO.	DESCRIPTION	ANVIL SIZE		THROAT DEPTH		TOTAL LENGTH		FINE ADJUSTMENT		UNIT OF PACK
		INCH	MM	INCH	MM	INCH	MM	INCH	MM	
ACS-1734	Round Serrated	2-3/8	60	3	75	10	255	1/8	3	1
ACS-1736	Round Flat	2-3/8	60	3	75	10	255	1/8	3	1
ACS-1939	Square Flat	2-3/8	60	3	75	10	255	1/8	3	1
ACS-1940	Square Serrated	2-3/8	60	3	75	10	255	1/8	3	1



42

MICROMETER STAND

- Product Description

 - Single clamping action stand to hold and set micrometer at various angles
 - Chrome plated clamping ‘C’ and black oxidized clamping screw with cross knurled handle
 - Suitable for digital and mechanical micrometers
 - Maximum possible revolvment is 180°
 - Enamelled stand with cast iron base

CAT NO.	DIAMETER OF BASE		HOLDING CAPACITY		UNIT OF PACK
	INCH	MM	INCH	MM	
ASM-0490	4-3/8	110	9/16	15	4



43

UNIVERSAL MAGNETIC INDICATOR HOLDER

- Product Description

 - Two universal ball sockets permits adjustment to any angle or position
 - Dovetail clamp for test indicators
 - 1/4" (6.35 mm) hole for 1/4" (6.35 mm) stem indicators
 - Provided with extension rod 1/4" x 3-1/2" (6.35 x 90 mm)
 - Powerful magnetic force
 - Available with or without fine adjustment

CAT NO.	DESCRIPTION	BASE DIA		BASE HEIGHT		BODY HEIGHT		UNIT OF PACK
		INCH	MM	INCH	MM	INCH	MM	
AMM-0088	With Fine Adjustment	1-3/16	30	1	25	4-3/4	120	12



44

MAGNETIC BASE – PUSH BUTTON

- Product Description

 - Especially designed to use with dial gauges to work on surface plates and machine tables
 - Available with or without fine adjustment
 - Magnetic pull on base and two sides
 - Clamping system suitable for dial gauges with lug back of 1/4" (6.35 mm). Clamping hole for 8 mm also available on request
 - Magnetic pull 25 kg. (55 lbs.) approximately

CAT NO.	DESCRIPTION	OVERALL HEIGHT		BASE DIMENSION L X W X H		UNIT OF PACK
		INCH	MM	INCH	MM	
AMB-0670	Without Fine Adjustment	9-1/4	235	1-7/8 x 1-3/4 x 2	48 x 45 x 50	6
AMB-0671	With Fine Adjustment	9-1/4	235	1-7/8 x 1-3/4 x 2	48 x 45 x 50	6



45 | MAGNETIC BASE – FLEXIBLE ARM

Product Description

- Articulated arm style alnico magnetic base, positions and locks easily
- Includes ON/OFF switch and central locking knob to tighten both arms
- Includes two ball joints and one central cylindrical joint
- Dial gage holder includes fine adjustment and full 360° swivel
- Clamping system suitable for dial gauges with stem of 1/4" (6.35 mm), 5/16" (8 mm) and 3/8" (9.5 mm) and dovetail indicators
- Magnetic pull approx. 60 kg. (130 lbs)

CAT NO.	MAXIMUM HEIGHT		BASE DIMENSION (L x W x H)		UNIT OF PACK
	INCH	MM	INCH	MM	
AMB-0674	14	355	2-1/2 x 1-7/8 x 2-1/8	63 x 48 x 55	4

46 | MAGNETIC BASE – HIGH POWER

Product Description

- Made of fine quality permanent alnico magnet
- Smooth easy ON/OFF switch
- Horizontal or vertical positioning capability
- V-grooved base for mounting on cylindrical parts
- Accepts all dial indicators with 1/4", 5/16", 3/8", 8mm stem and 1/4" (6.35 mm) lug back
- Magnetic pull approx. 50-60 kg. (110-130 lbs)

CAT NO.	DESCRIPTION	OVERALL HEIGHT		BASE DIMENSION (L x W x H)		UNIT OF PACK
		INCH	MM	INCH	MM	
AMB-0673	Without fine Adjustment	9-1/2	240	2-1/2 x 1-7/8 x 2-1/8	63 x 48 x 55	4
AMB-0917	With fine Adjustment	9-1/2	240	2-1/2 x 1-7/8 x 2-1/8	63 x 48 x 55	4
AMB-0918	Base only			2-1/2 x 1-7/8 x 2-1/8	63 x 48 x 55	6



47

MINI MAGNETIC STANDS

- Product Description

 - Compact and small universal permanent magnetic stand
 - High magnetic power affords maximum rigidity
 - Includes disc on bottom for neutralising magnet when not in use

CAT NO.	DESCRIPTION	BASE DIA		TOTAL HEIGHT		UNIT OF PACK
		INCH	MM	INCH	MM	
AMM-0081	Without Fine Adjustment	1-1/8	28	5	125	15
AMM-0084	With Fine Adjustment	1-1/8	28	5-3/8	135	15



48

MINI MAGNETIC BASE

- Product Description

 - Compact and small universal permanent magnetic stand
 - Clamps indicator with 1/4" stem as well as dovetail
 - Available with or without fine adjustment

CAT NO.	DESCRIPTION	BASE DIA		TOTAL HEIGHT		UNIT OF PACK
		INCH	MM	INCH	MM	
AMM-0083	Without Fine Adjustment	1-1/8	28	3-1/8	80	20
AMM-0082	With Fine Adjustment	1-1/8	28	5-3/8	135	15



49

UNIVERSAL CLAMPS

- Product Description

 - Black finished clamps for use with magnetic bases and dial gages with 1/4" ϕ stand
 - One clamp for dovetails and universal indicators

CAT NO.	CLAMPING HOLE		UNIT OF PACK
	INCH	MM	
ACE-30527	1/8 - 1/4	3 - 6.35	30

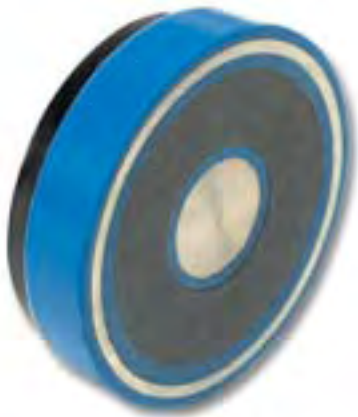


50 | MAGNETIC BACK FOR DIAL INDICATOR

Product Description

- Permanent powerful magnet
- Attaches to the back of 2" diameter AGD dial indicators

CAT NO.	DIAMETER		THICKNESS		UNIT OF PACK
	INCH	MM	INCH	MM	
AMH-4974	2-1/4"	57	1/2	12.5	20

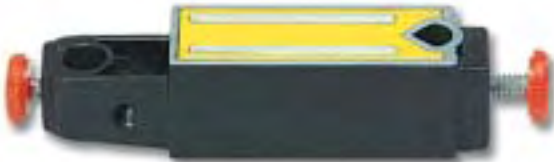


51 | UNIVERSAL MIGHTY MAGNETIC BASE

Product Description

- Universal magnetic base that saves time and improves accuracy
- Strong magnetic holding power
- Zinc die cast housing
- 5 different locations for mounting accessories
- 3 positions 1/4-20 for lug mounts
- 1 tapped hole 10-32
- 1 reamed hole 3/8"

CAT NO.	SIZE	UNIT OF PACK
AMB-6450	4-1/2" x 1" x 1-1/4"	10



52 | GAGE HANDLE

Product Description

- Suitable for handling all plug gages from ϕ 1/32" through 1/2", 0.79 to 12.7 mm
- Go and no-go clearly marked
- Made from aluminium alloy

CAT NO.	UNIT OF PACK
AGH-0567	25



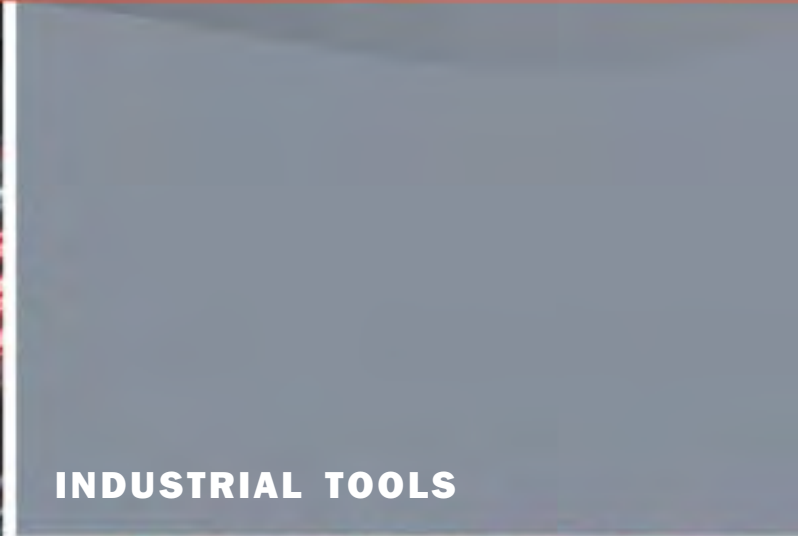
53 | ECONO SINE BARS

Product Description

- Body and rolls made of hardened and precise ground tool steel
- Perfect tool for angular inspection and measurement
- Top parallel to bottom of rolls $\pm .0004"$
- Distance between center of rolls $\pm .0004"$

CAT NO.	MODEL	WIDTH	DISTANCE BETWEEN ROLLERS	UNIT OF PACK
ASB-0474	11	1"	2-1/2"	25
ASB-0475	11	1"	5"	20





INDUSTRIAL TOOLS



1 BORING HEADS

- Machined from high grade steel with tool blocks hardened and ground
- Ideal for mill or jig bore operations
- Non-reflecting satin chrome body allows easy reading and adjustment
- Threaded back for interchangeable shanks
- Inch features .0005" and metric features .02 mm least count (boring ø double of least count)



CAT NO.	CAT NO. WITH R-8 SHANK	HEAD DIAMETER	THREAD SIZE	CROSS & VERTICAL HOLE SIZE	CENTER DISTANCE B/W HOLES	OVERALL LENGTH	MAX OFF SET
ABH-2261	ABH-2266	2"	7/8" x 20	1/2"	5/8"	2-13/32"	5/8"
ABH-2262	ABH-2267	2"	1-1/2" x 18	1/2"	5/8"	2-13/32"	5/8"
ABH-2263	ABH-2268	3"	1-1/2" x 18	3/4"	15/16"	3-1/8"	1"
ABH-2264	ABH-2269	4"	1-1/2" x 18	1"	1-1/4"	3-1/2"	1-5/8"
ABH-2297	ABH-3326	50 MM	7/8" x 20	12 MM	15.5 MM	62 MM	16 MM

2 THREADED SHANKS FOR BORING HEADS

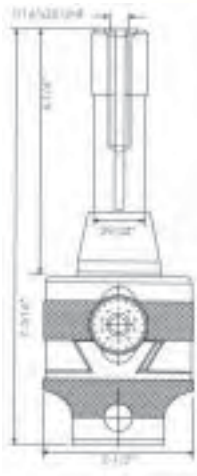
SHANK TYPE	CAT NO. FOR THREAD SIZE	
	7/8" - 20	1-1/2" - 18
R-8	ASB-2281	ASB-2287
MT-2	ASB-2295	ASB-2296
MT-3	ASB-2282	ASB-2288
MT-4	ASB-2283	ASB-2289
1/2" St	ASB-2284	ASB-2290
3/4" St	ASB-2285	ASB-2291
1" St	ASB-2286	ASB-2292
1-1/4 St	ASB-2928	ASB-2293
1-1/2 St	-	ASB-2294



3 INTEGRATED R-8 SHANK BORING HEAD

- Integrated shank for maximum rigidity
- Hardened and ground body
- Black oxidised finish
- Cross and vertical hole dia 1/2"
- Offset travel 3/4"

CAT NO.	HEAD DIAMETER	OVERALL LENGTH	GRADUATIONS
ABH-2265	2-1/2"	7-3/16"	.0005"



4 BORING HEAD SETS

- Very useful sets for complete boring needs
- Sets complete with boring heads, shanks and boring bars on a wood stand

CAT NO.	SET CONSISTS OF
COBALT	
ABH-6430	BORING HEAD 2" (78" x 20) with R-8 SHANK and 10 Pc. 1/2" COBALT BORING BAR SET
ABH-6433	BORING HEAD 2" (1-1/2" x 18) with R-8 SHANK and 10 Pc. 1/2" COBALT BORING BAR SET
ABH-6431	BORING HEAD 2" (7/8" x 20) with 3/4" SHANK and 10 Pc. 1/2" COBALT BORING BAR SET
ABH-6434	BORING HEAD 2" (1-1/2" x 18) with 3/4" SHANK and 10 Pc. 1/2" COBALT BORING BAR SET
ABH-6432	BORING HEAD 3" (1-1/2" x 18) with R-8 SHANK and 14 Pc. 3/4" COBALT BORING BAR SET
ABH-6435	BORING HEAD 3" (1-1/2" x 18) with 1" SHANK and 14 Pc. 3/4" COBALT BORING BAR SET
CARBIDE	
ABH-6436	BORING HEAD 2" (7/8" x 20) with R-8 SHANK and 9 Pc. 1/2" CARBIDE BORING BAR SET
ABH-6464	BORING HEAD 2" (1-1/2" x 18) with R-8 SHANK and 9 Pc. 1/2" CARBIDE BORING BAR SET
ABH-6465	BORING HEAD 2" (7/8" x 20) with 3/4" SHANK and 9 Pc. 1/2" CARBIDE BORING BAR SET
ABH-6468	BORING HEAD 2" (1-1/2" x 18) with 3/4" SHANK and 9 Pc. 1/2" CARBIDE BORING BAR SET
ABH-6466	BORING HEAD 3" (1-1/2" x 18) with R-8 SHANK and 12 Pc. 3/4" CARBIDE BORING BAR SET
ABH-6467	BORING HEAD 3" (1-1/2" x 18) with 1" SHANK and 12 Pc. 3/4" CARBIDE BORING BAR SET



5 | DRILL SLEEVES

- Designed for use with taper shank tools, providing accurate alignment between the two members
- Case hardened A grade type ACC ISO238/DIN 2185 made from external and internal ground carbon steel
- Workshop grade is made from external ground and Internal reamed carbon steel
- Precision ground for high concentricity



CAT NO. WORKSHOP GRADE	CAT NO. HARDENED A GRADE	MK CM	MORSE TAPER INSIDE	MORSE TAPER OUTSIDE	OVERALL LENGTH	
					INCH	MM
ADS-0710	ADS-0720	2/1	1	2	3-5/8	92
ADS-0711	ADS-0721	3/1	1	3	3-7/8	99
ADS-0712	ADS-0722	4/1	1	4	4-7/8	124
ADS-0713	ADS-0723	5/1	1	5	6-1/8	156
ADS-0714	ADS-0724	3/2	2	3	4-3/8	112
ADS-0715	ADS-0725	4/2	2	4	4-7/8	124
ADS-0716	ADS-0726	5/2	2	5	6-1/8	156
ADS-0717	ADS-0727	4/3	3	4	5-1/2	140
ADS-0718	ADS-0728	5/3	3	5	6-1/8	156
ADS-0719	ADS-0729	5/4	4	5	6-3/4	171
ADS-0550	ADS-0552	6/4	4	6	8-9/16	218
ADS-0551	ADS-0553	6/5	5	6	8-9/16	218
ADS-0548	ADS-0549	4pc set consisting of popular sizes 1-2, 2-3, 3-4, 4-5				

6

EXTENSION SOCKETS

- Hardened type precision ground internally and externally
- Made of high quality tool steel

CAT NO. SOFT TYPE	CAT NO. HARDENED	MK CM	MORSE TAPER HOLE	MORSE TAPER SHANK	OVERALL LENGTH	
					INCH	MM
ASE-1700	ASE-2101	1/1	1	1	5-3/4	145
ASE-1701	ASE-2102	2/1	1	2	6-3/8	160
ASE-1702	ASE-2103	3/1	1	3	6-7/8	175
ASE-1703	ASE-2104	4/1	1	4	7-7/8	200
ASE-1704	ASE-2105	5/1	1	5	9-1/8	232
ASE-1705	ASE-2106	1/2	2	1	6-3/8	160
ASE-1706	ASE-2107	2/2	2	2	6-7/8	175
ASE-1707	ASE-2108	3/2	2	3	7-5/8	194
ASE-1708	ASE-2109	4/2	2	4	8-1/2	215
ASE-1709	ASE-2110	5/2	2	5	9-3/4	247
ASE-1710	ASE-2111	2/3	3	2	7-3/4	196
ASE-1711	ASE-2112	3/3	3	3	8-1/2	215
ASE-1712	ASE-2113	4/3	3	4	9-3/8	240
ASE-1713	ASE-2114	5/3	3	5	10-5/8	268
ASE-1724	ASE-2115	2/4	4	2	8-1/2	215
ASE-1714	ASE-2116	3/4	4	3	9-3/8	240
ASE-1715	ASE-2117	4/4	4	4	10-1/2	265
ASE-1716	ASE-2118	5/4	4	5	11-7/8	300
ASE-1720	ASE-2125	6/4	4	6	14	355
ASE-1717	ASE-2119	3/5	5	3	10 -5/8	268
ASE-1718	ASE-2120	4/5	5	4	11-7/8	300
ASE-1719	ASE-2121	5/5	5	5	13-1/4	335
ASE-1721	ASE-2122	6/5	5	6	15-3/8	390
ASE-1722	ASE-2123	6/6	6	6	18-9/16	470

7

COMB. SHELL END MILL ARBORS

CAT NO.	DESCRIPTION
AMA-6250	Comb. Shell End Mill Arbor MT2 16 MM
AMA-6251	Comb. Shell End Mill Arbor MT3 16 MM



8 | DRILL CHUCK ARBORS

CAT NO.	DESCRIPTION
AMA-6210	Drill Chuck Arbor CAT 40xJT2
AMA-6211	Drill Chuck Arbor CAT 40xJT3
AMA-6212	Drill Chuck Arbor CAT 40xJT4
AMA-6213	Drill Chuck Arbor CAT 40xJT6
AMA-6214	Drill Chuck Arbor CAT 40xJT33
AMA-6216	Drill Chuck Arbor CAT 40 MT2
AMA-6217	Drill Chuck Arbor CAT 40 MT3
AMA-6219	Drill Chuck Arbor CAT 40 MT4



9 | SOLID SOCKETS

- Hardened and ground
- Used for adopting MT tools to straight turrets



CAT NO.	HOLE	OUTSIDE DIAMETER	OVERALL LENGTH
INCH			
ASS-1170	MT 1	1"	3-1/2"
ASS-1171	MT 1	1-1/4"	3-1/2"
ASS-1172	MT 1	1-1/2"	3-1/2"
ASS-1173	MT 2	1"	4"
ASS-1174	MT 2	1-1/4"	4"
ASS-1175	MT 2	1-1/2"	4"
ASS-1176	MT 2	1-3/4"	4"
ASS-1177	MT 2	2"	4"
ASS-1178	MT 3	1-1/4"	4-3/4"
ASS-1179	MT 3	1-1/2"	4-3/4"
ASS-1180	MT 3	1-3/4"	4-3/4"
ASS-1181	MT 3	2"	4-3/4"
ASS-1182	MT 4	1-1/2"	6"
ASS-1183	MT 4	1-3/4"	6"
ASS-1184	MT 4	2"	6"
ASS-1185	MT 5	2-1/4"	7-3/8"
ASS-1211	MT 5	2-1/2"	7-3/8"
ASS-1212	MT 6	3-1/4"	10-1/8"
ASS-1213	MT 6	3-1/2"	10-1/8"
METRIC			
ASS-6140	MT 1	20 MM	75 MM
ASS-6141	MT 1	25 MM	88 MM
ASS-6142	MT 2	32 MM	100 MM
ASS-6143	MT 2	25 MM	100 MM
ASS-6144	MT 2	40 MM	100 MM
ASS-6145	MT 3	32 MM	120 MM
ASS-6146	MT 3	40 MM	120 MM
ASS-6147	MT 4	40 MM	152 MM
ASS-6148	MT 4	50 MM	152 MM

10 | DRILL CHUCK ARBOR

- Precision ground to master gauges
- Made of high quality tool steel
- Guaranteed accuracy and fit
- Individually packed

TAPER SHANK – MT/B

- Accuracy to DIN 238
- Hardened and precision ground to high concentricity

CAT NO.	DRILL CHUCK TAPER	TAPER SHANK MORSE TAPER	TOTAL LENGTH MM
ACA-2150	B 10	1	86
ACA-2161	B 10	2	105
ACA-2151	B 12	1	89
ACA-2153	B 12	2	106
ACA-2156	B 12	3	124
ACA-2152	B 16	1	99
ACA-2154	B 16	2	112
ACA-2157	B 16	3	134
ACA-2159	B 16	4	156
ACA-1479	B 18	1	107
ACA-1478	B 18	2	119
ACA-2148	B 18	3	140
ACA-2160	B 18	4	165
ACA-2155	B 22	2	130
ACA-2158	B 22	3	147
ACA-2149	B 22	4	176
ACA-2164	B 24	3	157
ACA-2165	B 24	4	186

R-8 DRILL CHUCK ARBORS

- Ground to master gauges
- Individually packed

CAT NO.	SIZE	TO FIT JACOB TAPER
ACA-1151	R8-1	1
ACA-1152	R8-2	2
ACA-1153	R8-3	3
ACA-1154	R8-4	4
ACA-1155	R8-6	6
ACA-1156	R8-33	33

TAPER SHANK – MT/JT

CAT NO.	MORSE SHANK	JACOB BACK
ACA-0806	0	0
ACA-0807	0	1
ACA-0808	0	2
ACA-0809	0	3
ACA-0810	0	6
ACA-0811	0	33
ACA-0812	1	0
ACA-0813	1	1
ACA-0814	1	2
ACA-0815	1	3
ACA-0816	1	4
ACA-0873	1	5
ACA-0817	1	6
ACA-0818	1	33
ACA-0819	2	0
ACA-0820	2	1
ACA-0821	2	2
ACA-0822	2	3
ACA-0823	2	4
ACA-0824	2	5
ACA-0825	2	6
ACA-0826	2	33
ACA-0827	3	1
ACA-0828	3	2
ACA-0829	3	3
ACA-0830	3	4
ACA-0831	3	5
ACA-0832	3	6
ACA-0833	3	33
ACA-0834	4	2
ACA-0835	4	3
ACA-0836	4	4
ACA-0837	4	5
ACA-0838	4	6
ACA-0839	4	33
ACA-0840	5	2
ACA-0841	5	3
ACA-0842	5	4
ACA-0843	5	5
ACA-0844	5	6
ACA-0874	5	33



Taper Shank – MT/JT, MT/B



Taper Shank – R8/JT

11 | THREADED ARBORS

CAT NO.	SHANK SIZE	THREAD
ACA-0897	Morse Taper No. 3	3/8 - 24
ACA-0898	Morse Taper No. 3	1/2 - 20
ACA-0899	Morse Taper No. 3	5/8 - 16
ACA-0868	Morse Taper No. 2	3/8 - 24
ACA-0869	Morse Taper No. 2	1/2 - 20
ACA-0870	Morse Taper No. 2	5/8 - 16
ACA-1492	Morse Taper No. 1	3/8 - 24
ACA-1493	Morse Taper No. 1	1/2 - 20
ACA-1612	1/2" Straight	1/2 - 20
ACA-1613	1/2" Straight	3/8 - 24

12 | BLANK ARBORS

CAT NO.	SHANK TAPER
ACA-1494	Morse Taper 1
ACA-1495	Morse Taper 2
ACA-1496	Morse Taper 3
ACA-1497	Morse Taper 4

13 | STRAIGHT SHANK ARBORS

CAT NO.	SHANK DIAMETER	SHANK LENGTH	JACOB TAPER
ACA-0845	3/8"	2-1/2"	0
ACA-0846	3/8"	2-1/2"	1
ACA-0875	3/8"	2-1/2"	2
ACA-0847	1/2"	2-1/2"	0
ACA-0848	1/2"	2-1/2"	1
ACA-0849	1/2"	2-1/2"	2
ACA-0850	1/2"	2-1/2"	3
ACA-0851	1/2"	2-1/2"	4
ACA-0852	1/2"	2-1/2"	6
ACA-0853	1/2"	2-1/2"	33
ACA-0854	5/8"	2-1/2"	0
ACA-0855	5/8"	2-1/2"	1
ACA-0856	5/8"	2-1/2"	2
ACA-0857	5/8"	2-1/2"	3
ACA-0858	5/8"	2-1/2"	4
ACA-0859	5/8"	2-1/2"	6
ACA-0860	5/8"	2-1/2"	33
ACA-0861	3/4"	3"	0
ACA-0862	3/4"	3"	1
ACA-0863	3/4"	3"	2
ACA-0864	3/4"	3"	3
ACA-0865	3/4"	3"	4
ACA-0866	3/4"	3"	6
ACA-0867	3/4"	3"	33
ACA-1481	1"	3"	0
ACA-1482	1"	3"	1
ACA-1483	1"	3"	2
ACA-1484	1"	3"	3
ACA-1485	1"	3"	4
ACA-1480	1"	3"	5
ACA-1486	1"	3"	6
ACA-1487	1"	3"	33
ACA-1488	1-1/2"	4"	3
ACA-1489	1-1/2"	4"	4
ACA-1490	1-3/4"	4"	3
ACA-1491	1-3/4"	4"	4



Threaded Arbors

Blank Arbors

Straight Shank Arbors

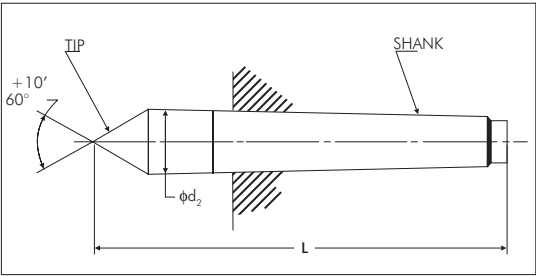
|14| DRILL DRIFTS

CAT NO.	DRIFT NO.	FITS NO. SOCKETS AND SLEEVES	OVERALL LENGTH	
			INCH	MM
ADD-0376	1	MT-1	4-1/2	115
ADD-0377	2	MT-2	5-1/2	140
ADD-0378	3	MT-3	6	152
ADD-0379	4	MT-4-5-6	6-3/4	170
ADD-0380	3 Pc drill drift set consisting of # 1, 2, 3			
ADD-0381	4 Pc drill drift set consisting of # 1, 2, 3, 4			



|15| SOLID LATHE CENTERS

- Design features to ISO298/DIN806
- 60° included point angle full lathe center
- Precise ground and hardened
- Carbide tipped centers gives longer tool life and offer more wear resistance in both turning or grinding applications thus reducing costs



CARBON STEEL CAT NO.	ALLOY CAT NO.	CARBIDE TIPPED CAT NO.	MORSE TAPER	OVERALL LENGTH		BODY DIA d ₂ MM
				INCH	MM	
ALC-0460	ALC-1691	ALC-2090	MT 0	2-3/4	70	9.2
ALC-0461	ALC-1692	ALC-2091	MT 1	3-3/16	80	12.2
ALC-0462	ALC-1693	ALC-2092	MT 2	4	100	18.0
ALC-0463	ALC-1694	ALC-2093	MT 3	5	125	24.1
ALC-0464	ALC-1695	ALC-2094	MT 4	6-3/8	160	31.6
ALC-0465	ALC-1696	ALC-2095	MT 5	8	200	44.7
ALC-0466	ALC-1697	ALC-2096	MT 6	10-5/8	270	63.8

16 BULL NOSE LIVE CENTERS

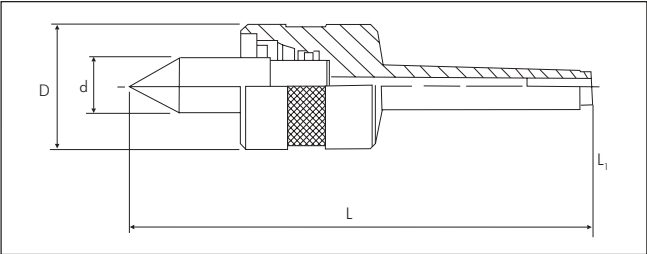
- Designed to hold pipe and hollow work
- Preloaded bearings to achieve good thrust and radial capacities
- Head made from heat treated hardened high carbon alloy steel
- Head hardened to 55-60 HRC



CAT NO.	MORSE TAPER SIZE	HEAD DIA		TOTAL LENGTH		HEAD LENGTH		NOSE LENGTH		NOSE DIA		ANGLE
		INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	
ALC-2346	MT 2	2.48	63	5.37	136	2.48	63	1.42	36	0.46	11.7	70°
ALC-2347	MT 3	3.07	78	6.77	172	3.03	77	1.65	42	0.71	18	70°
ALC-2348	MT 4	5.04	128	7.62	193	3.07	78	2.45	62	1.38	35	75°
ALC-2349	MT 5	5.8	147	9.60	243	4.125	104	2.90	73	1.38	35	75°

17 LIVE CENTERS - DUAL BEARING

- Made of hardened and ground high carbon steel
- Point hardened to 52-58 HRC
- Consists of two 'anti-friction' bearings
- Single row deep groove ball bearing and taper roller bearing to absorb combined radial and thrust loads
- Run out within .0002" (.005 mm)
- Maximum speed capacity upto 2000 rpm



CAT NO.	MORSE TAPER	BODY DIAMETER D		POINT DIAMETER D		OVERALL LENGTH L	
		INCH	MM	INCH	MM	INCH	MM
ALC-0491	MT 1	1-5/16	34	11/16	18	4-3/4	120
ALC-0492	MT 2	2	50	27/32	21	5-7/8	148
ALC-0493	MT 3	2-5/16	60	15/16	24	7-1/4	185
ALC-0494	MT 4	2-1/2	63	1-1/8	28	8-5/8	220
ALC-0495	MT 5	3	75	1-1/2	36	10-1/4	260
ALC-0496	MT 6	4	100	2-1/8	53	14	355

|18| PRECISION LIVE CENTERS WITH SEVEN INTERCHANGEABLE POINTS

- Made of hardened and ground high carbon steel
- Comes complete with wide selection of seven interchangeable points and drift
- Versatile for wide range of applications
- Consists of three anti-friction steel bearings
- Run out within .0002" (.005 mm)

CAT NO.	MORSE TAPER
ALC-6611	MT 2
ALC-6612	MT 3



19 | ADJUSTABLE MILL STOP
(PRODUCTION WORK STOP)

- Use on your table for vertical or horizontal set ups
- Serves as heavy and rigid stop for milling set ups
- Has 1/2" (12.7mm) clamping hole in base to allow secure anchoring with t-slot nut and stud
- 7-1/2" (190 mm) overall height, with 3/8" (9.50 mm) diameter stop rod
- Black shining finish

CAT NO.
AMS-0929



20 | TOOL MAKERS PARALLEL CLAMPS

- Features hardened and tempered jaws
- Clamps equipped with spring screw clip
- Highly useful for holding small work together, when drilling, welding, assembling, etc.

CAT NO.	JAW LENGTH		JAW OPENING	
	INCH	MM	INCH	MM
ACP-0125	2	50	1-1/4	31
ACP-0126	2-1/2	60	1-3/4	44
ACP-0127	3	75	2-1/4	57
ACP-0128	4	100	2-3/4	70
ACP-0129	5	125	3-1/2	89
ACP-0590	6	150	4-1/2	114
ACP-0131	8	200	6	150
ATS-2231	4PC Set of length 2", 2-1/2", 3 & 4" (50, 60, 75 and 100 mm)			



21

GRINDING CARRIERS (DOGS)

- Carriers for grinding machines and light lathes
- Made of malleable iron
- Shiny black finish

CAT NO.	CAPACITY	
	INCH	MM
ALC-1339	1/4	6
ALC-1340	3/8	9
ALC-1341	1/2	12
ALC-1342	5/8	16
ALC-1343	3/4	19
ALC-1344	1	25
ALC-1345	1-1/4	30
ALC-1346	1-1/2	38
ALC-1347	1-3/4	44
ALC-1348	2	50
ALC-1349	2-1/2	63
ALC-1350	3	75
ALC-1369	3-1/2	90
ALC-1351	4	100
ALC-1353	Set of Six Grinding Carriers 1/4" to 1" (6 mm to 25 mm)	
ALC-1354	Set of ten Grinding Carriers 1/4" to 2" (6 mm to 50 mm)	



22

LATHE DOGS

- Manufactured from high grade iron
- Provided with square head screw
- Available in both straight and bent styles
- Sizes above and including 4" are fitted with two screws instead of one

CAT NO. STRAIGHT TYPE	CAT NO. BENT TYPE	CAPACITY	
		INCH	MM
ALD-0695	ALD-1600	1/2	12
ALD-0696	ALD-1601	3/4	19
ALD-0697	ALD-1602	1	25
ALD-0698	ALD-1603	1-1/4	30
ALD-0699	ALD-1604	1-1/2	38
ALD-0700	ALD-1605	1-3/4	44
ALD-0701	ALD-1606	2	50
ALD-0702	ALD-1607	2-1/2	63
ALD-0703	ALD-1608	3	75
ALD-0704	ALD-1609	4	100
ALD-0705	ALD-1610	5	125
ALD-0706	ALD-1611	6	150



23 T-SLOT CLEANER

- Widely used product to clean T-slots
- 5-1/8" / 130 mm long for 1/2" / 12.5 MM T-slots
- Black shiny finish

CAT NO.

ATC-0249



24 COLLET STOPS

5C SOLID COLLET STOP (ADJUSTABLE)

- Fully threaded
- For chucking parts to a depth of 3" (75 mm) from face of collets
- Shiny black finish

CAT NO.

ACS-0385



25 WORK STOP

- Adjustable, spring loaded clamp for vises
- Fits all milling vises with 3/8" (9.5 mm) thru 3/4" (19.0 mm) wide jaws
- Body 1" (25 mm) wide with two steel guide pins for positive clamping
- Mounts quickly, with one socket head screw

CAT NO.

AQC-1188



26 QUILL STOP

- Quick action clip
- Clips on quill easily for rapid depth setting
- Top or bottom positioning
- Easily removable when not being used

CAT NO.

AQS-0962



27 QUILL FEED HANDLE

- A time saving accessory for bridgeport operators
- Eliminates pulling off/resetting the quill feed handle for any repositioning
- Flick of wrist retracts pin from index plate of the quill feed mechanism and lets you move handle into any desired position
- Spring pushes pin back from quill feed actuation up or down
- Speeds operations considerably, particularly for deep hole drilling etc.
- Replaces conventional feed handle in seconds, no holes to be drilled
- Heavy duty construction. Handle will not bend

CAT NO.

AQH-0968



|28| KNOBS

- Suitable for many adjustment clamping or locating devices
- Knurled head provides non-slip finger grip
- Black shiny finish
- Available in tapped type



A. KNURLED KNOBS

CAT NO.	THREAD SIZE	HEAD DIAMETER
AKK-0300	10 - 24	3/4"
AKK-0301	1/4" - 20	1"
AKK-0302	3/8" - 16	1-1/4"
AKK-0303	1/2" - 13	1-1/2"
AKK-0304	5/8" - 11	2"
AKK-0305	3/4" - 10	2-1/2"

B. HAND KNOBS – STAR TYPE

CAT NO.	THREAD SIZE	HEAD DIAMETER
AKS-0316	1/4" - 20	1"
AKS-0317	5/16" - 18	1-1/2"
AKS-0318	3/8" - 16	2"
AKS-0319	1/2" - 13	2-1/2"
AKS-0321	5/8" - 11	2-1/2"
AKS-0320	5/8" - 11	3"

|29| DRILL CHUCKS

- Hardened jaws
- Available in 1/4" and 1/2" capacity

CAT NO.	CAPACITY	THREAD SIZE
ADC-0394	1/4"	1/2" x 20
ADC-0393	1/2"	1/2" x 20
ADC-0400	1/4"	3/8" x 24



|30| SHEET METAL CUTTER

- Smooth ratcheting action
- Can be used for curved, straight & internal angle cutting
- Hardened edge on bottom wheel
- Base mountable on work bench

CAT NO.	DESCRIPTION
ASM-1468	Sheet Metal with Cutter
ASM-1499	Spare Cutter



31 HEAVY DUTY JACK SCREW SET

- Versatile set which includes jack, extension bases and attachments
- Used for levelling work on planer beds, upright drills and setting up machinery
- Ability to lift 1000 lbs.
- Very useful for the tool room and machine shop
- Jack body alone has a range of 2-1/4" to 3-3/8" / 57 to 85 mm

CAT NO.
AJM-0438



Ø1-1/4"



Extension
2"/50 mm long



Extension
1"/50 mm long



Extension for
uneven surface



Extension for
cylindrical form



Auxillary
point

32 MACHINIST JACK

- Made of heavy cast steel
- Adjustable screw and tilting swivel head
- Range 3"-4" / 75-100 mm, adjustment 1"/25 mm
- A shop tool with hundreds of uses

CAT NO.
AJM-0151

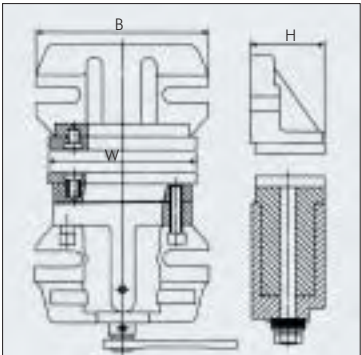


|33|

2 PC MILLING MACHINE VISE

- Body made of high quality casting
- Hardened and ground jaw plates
- Designed to handle extra long workpiece, thus utilizing full length of machine bed
- Work locates directly on bed for extra rigidity
- Quarter turn of detachable handle clamps work firm enough for heaviest cuts

CAT NO.	JAW WIDTH W		JAW DEPTH H		WIDTH OF VISE B		KEY SLOT WIDTH		CLAMP TRAVEL		WEIGHT	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	LBS	KG
AVM-1400	6	150	3	75	7-3/32	180	11/16	18	3/8	10	31	14
AVM-1399	8	200	3-1/4	82	9-1/2	244	13/16	20	5/8	15	40	18



|34|

SELF CENTERING VISE

- High precision vises manufactured from close grained high tensile cast iron
- Alloy steel jaws hardened to 50-60 HRC

CAT NO.	JAW WIDTH		MAX. OPENING		JAW DEPTH		NET WEIGHT	
	INCH	MM	INCH	MM	INCH	MM	LBS	KGS
AVM-5695	4	100	4	100	1-3/4	42	32	15

35 3-WAY UNIVERSAL TILT & SWIVEL ANGLE VISE

- Vise body made of high tensile close grain cast Iron
- Jaw plates are ground and hardened to 50-60 HRC
- Swivel range 360° around base
- Tilting range 90° vertical to horizontal and 45° from center to each side
- Vise top surface is ground to facilitate use of magnetic tool holders and other accessories



SPECIFICATIONS FOR 3-WAY UNIVERSAL TILT & SWIVEL ANGLE VISE

CAT NO.	JAW WIDTH		JAW DEPTH		JAW OPENING		TOTAL HEIGHT		WEIGHT	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	LBS	KG
AVU-2996	4	100	1-3/4	45	4	100	7-1/2	190	48	22

36 3 WAY SWIVEL & TILTING VISE – PRECISE

- High precision vises manufactured from close grained high tensile cast iron
- Alloy steel jaws hardened to 50-60 HRC
- Perfect angular indexing in all axis
- Ideal for grinding, shaping, jig boring, etc
- No jaw tilt

CAT NO.	JAW WIDTH		MAX. OPENING		JAW DEPTH		NET WEIGHT	
	INCH	MM	INCH	MM	INCH	MM	LBS	KGS
AVU-2994	2	50	2	50	15/16	24	9	4
AVU-2995	3	75	3	75	1-5/16	34	24	10



39 UNIVERSAL TILTING TABLE

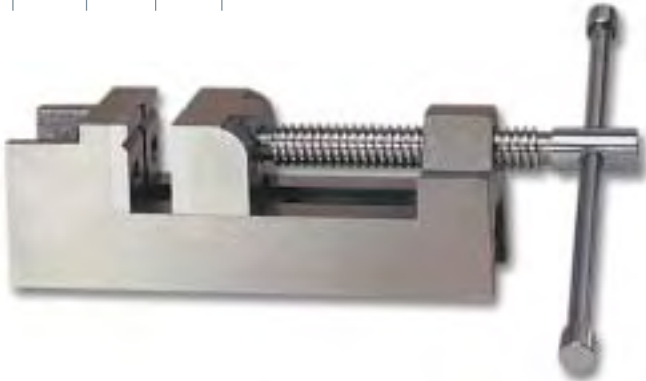
CAT NO.	SIZE		NO. OF T-SLOTS
	INCH	MM	
AAP-1388	4 x 5	100 x 125	2



40 DRILL PRESS VISE – MULTI SIDE USE

- Made of high tensile iron casting with steel adjusting screw
- Precision ground sides and vise bed for accurate positioning and layout operations
- Can be positioned horizontally, vertically and longitudinally

CAT NO.	JAW WIDTH		JAW DEPTH		JAW OPENING		WEIGHT	
	INCH	MM	INCH	MM	INCH	MM	LBS	KGS
AVD-0969	1-1/2	38	7/8	22	1-1/2	38	1.5	0.7
AVD-0970	2-1/2	63	1-1/2	38	2-1/2	63	6.25	2.85



41 UNIGRIP DRILL PRESS VISE

- Rugged drill press vise with removal upper section jaws
- Heavy duty construction

CAT NO.	JAW WIDTH		DEPTH OF JAW		WEIGHT	
	INCH	MM	INCH	MM	LBS	KG
AVU-5386	3	75	7/8	22	6	2.7
AVU-5387	4	100	15/16	24	9.25	4.2
AVU-5389	5	125	1-3/16	30	12.75	5.8
AVU-5388	6	150	1-3/16	30	18.5	8.5



[42] 3-WAY UNIGRIP DRILL PRESS VISE

- Made of high tensile iron casting
- Can be posotioned horizontally, vertically and longitudinally
- Heavy duty construction

SPECIFICATIONS FOR 3-WAY UNIGRIP DRILL PRESS VISE – PRECISION

CAT NO.	JAW WIDTH		JAW DEPTH		JAW OPENING		BODY LENGTH		WEIGHT	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	LBS	KG
AVU-5600	3-7/8	100	1-1/8	30	3-1/2	90	7-1/2	190	11	5

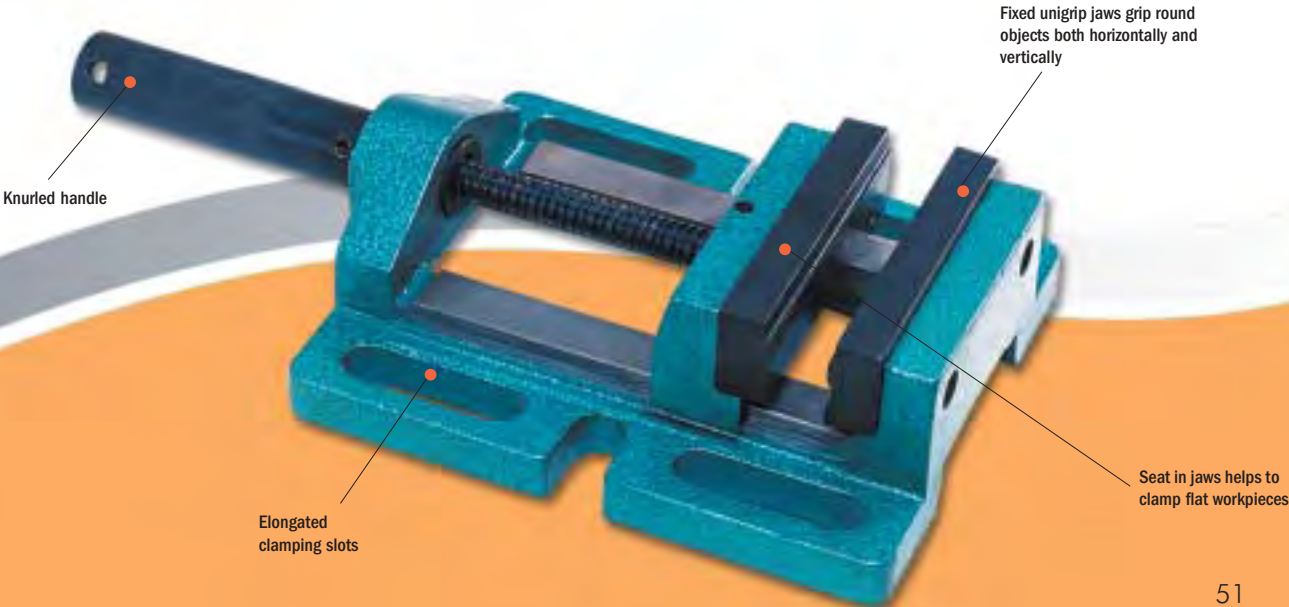


[43] UNIGRIP DRILL PRESS VISE PRECISION

- Made of high tensile iron casting
- Used for precision jobs
- Slots for easy clamping to the tables
- Heavy duty construction

SPECIFICATIONS FOR UNIGRIP DRILL PRESS VISE – PRECISION

CAT NO.	JAW WIDTH		JAW DEPTH		JAW OPENING		BODY LENGTH		WEIGHT	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	LBS	KG
AVU-5521	3-1/4	85	1-1/4	32	2-7/8	75	6-7/8	175	7.5	3.5
AVU-5522	3-7/8	100	1-1/2	37	3-7/8	98	7-3/4	198	9.4	4.3
AVU-5523	4-3/4	120	1-1/2	37	4-1/4	110	8-7/8	225	14.0	6.4



44 | SCROLL CHUCKS

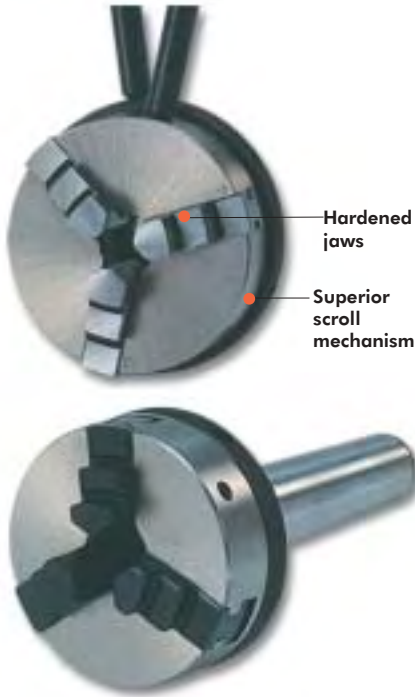
- Medium duty type
- Chucks are threaded back scroll, self centering type
- These chucks are provided with two keys

CHUCKS

CAT NO.	CHUCK DIAMETER		BACK	NO. OF JAWS
	INCH	MM		
ALC-5494	2	50	M12 x 1.0 MM	3
ALC-5495	2-1/2	64	M14 x 1.0 MM	3
ALC-5498	4	100	3/4"	4

CHUCKS WITH SHANKS

CAT NO.	DESCRIPTION
ALC-5493	2"/50 MM scroll chuck with MT1 shank
ALC-5490	2"/50 MM scroll chuck with MT2 shank
ASC-6614	MT1 shank with M12 x 1.0 thread
ASC-6615	MT2 shank with M12 x 1.0 thread



45 | SPECIALITY LATHE CHUCKS

- Plain back to accomodate shanks and face plates
- Includes extra set of dual purpose hardened stepped jaws
- Available with 5c shanks and MT shanks
- For use in fixtures and 5c spindles for quick economical set up

CAT NO.	DESCRIPTION	SIZE	
		INCH	MM
Chuck			
ALC-5492	3 Jaw self centering chuck	3	80
ALC-5500	3 Jaw self centering chuck	4	100
ALC-5496	4 Jaw independent chuck	3	80
ALC-5497	4 Jaw independent chuck	4	100



46 | LATHE CHUCK KEYS

- Hardened and tempered
- Black finish

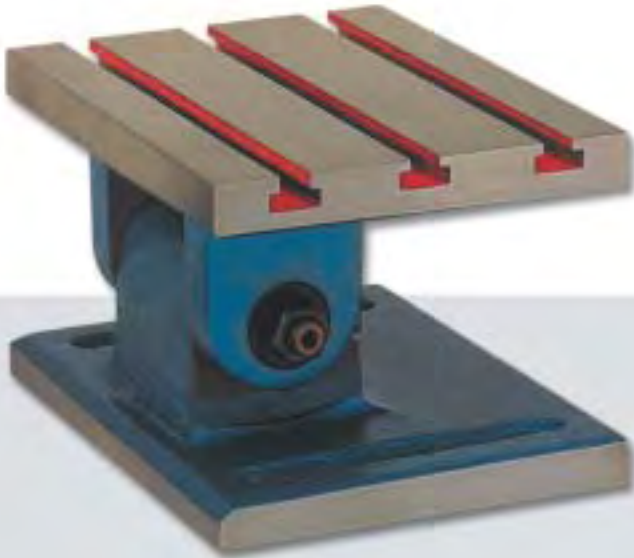
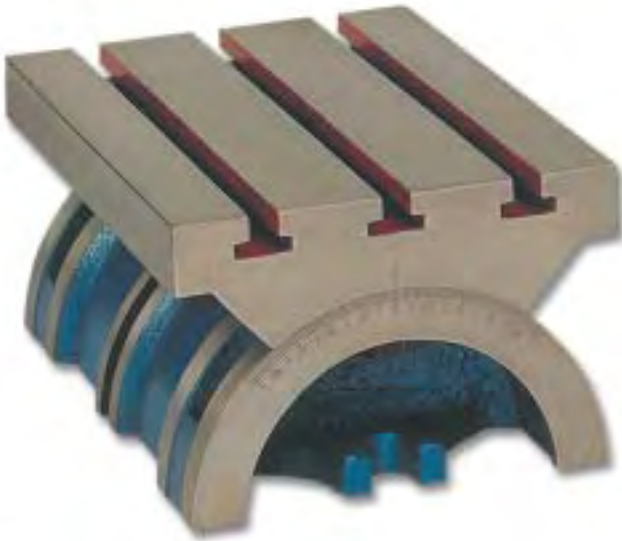


CAT NO.	SIZE OF SQUARE	
	INCH	MM
ALC-0027	15/64	6.00
ALC-0028	9/32	7.15
ALC-0029	15/32	12.00
ALC-0180	1/4	6.35
ALC-0181	5/16	8.00
ALC-0182	3/8	9.50
ALC-0183	7/16	11.20
ALC-0184	1/2	12.70
ALC-0185	9/16	14.30
ALC-0186	5/8	16.00
ALC-0187	11/16	17.50
ALC-0188	3/4	19.00
ALC-0189	1	25.40

|47| TILTING TABLES – ADJUSTABLE ANGLE PLATE

- Heavy and sturdy machined castings
- Range 45° each way from vertical
- Locking action by 2 clamping screws on each end
- Low profile for low machine head clearance
- 3 machined “T” slots and ground table surface

CAT NO.	SIZE		HEIGHT		FOR T-SLOT BOLTS	WEIGHT	
	INCH	MM	INCH	MM		LBS	KG
AAP-1380	5 x 7	125 x 175	3-3/4	95	3/8"/M10	16.5	7.5
AAP-1381	7 x 10	175 x 250	5	125	3/8"/M10	35	16
AAP-1382	10 x 15	250 x 380	6-1/8	155	1/2"/M12	77	35



|48| SWIVEL ANGLE PLATES

- Heavy duty cast Iron
- Graduated 0 – 90° range
- Ground table surface
- Machined t-slots
- 2 screw locks provided for setting purposes

CAT NO.	TABLE SIZE		APPROX. HEIGHT		WEIGHT	
	INCH	MM	INCH	HEIGHT	LBS	KG
AAP-1383	5 x 6	125 x 150	4-1/2	115	15	6.8
AAP-1384	6 x 8	150 x 200	5	125	26	12.0
AAP-1385	8 x 10	200 x 250	6-1/2	165	43	19.5
AAP-1386	10 x 12	250 x 300	8	200	66	30.0
AAP-1387	12 x 15	300 x 380	9	225	116	53.0

49 COMPOUND SLIDING TABLE

- Heavy positioning table used in milling, drilling, spacing and jig boring
- Structural members made of fine-grain cast iron
- Low silhouette design for light work



CAT NO.	TABLE SIZE		HEIGHT		WEIGHT	
	INCH	MM	INCH	HEIGHT	LBS	KG
AST-1443	6 x 12	150 x 300	4-1/2	115	33	15

50 ROTARY TABLES

- Dual position tables used for indexing, circular cutting, angle setting, boring and spot facing operations
- Horizontal and vertical rotary tables comes with 360° graduations
- Features dual positive action locks with extra deep coolant channel
- Table clamping surface are precision ground and cylindrical center bore concentric
- Indexing set consists of three dividing plates, crank handle, sector and sector spring

CAT NO.	CAT NO. WITH INDEXING SET	TABLE SIZE		BORE	GEAR RATIO	TOTAL HEIGHT	
		INCH	MM			INCH	MM
ART-2410	ART-5546	4	100	1 MT	1:72	6.30	160
ART-2412	ART-5547	6	150	2 MT	1:90	8.20	210
ART-2413	ART-5548	8	200	3 MT	1:90	11.20	285
ART-2414	ART-5549	10	250	3 MT	1:90	13.15	335



51 | ROCKER TOOL POSTS

ATH-6478	Rocker Tool Post - Small for toolholder with 3/8" × 1-1/2" shank
ATH-6479	Rocker Tool Post - Medium for toolholder with 3/4" × 1" shank
ATH-6480	Rocker Tool Post - Big for toolholder with 3/4" × 1-3/4" shank



52 | ROUND FINE POLE CHUCK - 5"/125 MM

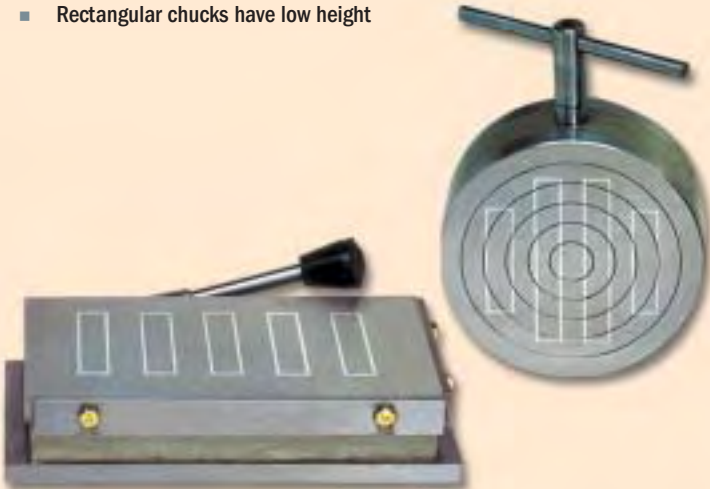
- Fine pole pattern for tiny and thin pieces
- Close pole spacing provides uniform holding power
- Supplied with one wrench

CAT NO.	DIAMETER		HEIGHT	
	INCH	MM	INCH	MM
AMC-0645	5	125	2.5	63.5



53 | PERMANENT MAGNETIC CHUCKS

- Powered chucks for use on soft material
- Solid top and bottom plates assure retained accuracy
- Has a positive hand release
- Pole divisions are arranged for holding small, thin and large pieces
- Rectangular chucks have low height



RECTANGULAR TYPE

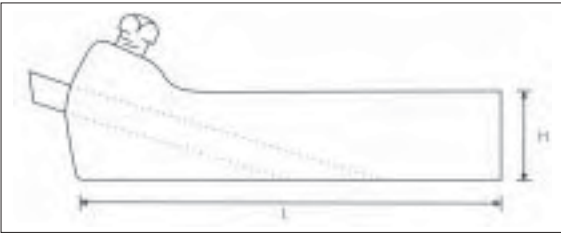
CAT NO. FOR STANDARD POLES	SIZE W X L		NO. OF POLES
	INCH	MM	
AMC-0605	4 x 7	100 x 175	5
AMC-0606	4 x 8	100 x 200	5
AMC-0607	5 x 10	125 x 250	5
AMC-0608	6 x 12	150 x 300	6
AMC-0609	6 x 14	150 x 355	7
AMC-0610	6 x 18	150 x 455	10
AMC-0611	8 x 12	200 x 300	6
AMC-0604	8 x 15	200 x 380	8
AMC-0612	8 x 18	200 x 455	10

ROUND TYPE

CAT NO. FOR STANDARD POLES	SIZE	
	INCH	MM
AMC-0633	3	75
AMC-0634	4	100
AMC-0635	5	125
AMC-0636	6	150
AMC-0637	8	200
AMC-0638	9	225
AMC-0639	10	250
AMC-0640	12	300

54 TURNING TOOL HOLDERS

- Accurately machined from special steel
- Provided with one wrench
- Available in straight, left and right hand shanks
- Supplied with or without tool bits of standard length



STRAIGHT CAT NO.	STRAIGHT WITH BIT CAT NO.	LEFT HAND CAT NO.	LEFT HAND WITH BIT CAT NO.	RIGHT HAND CAT NO.	RIGHT HAND WITH BIT CAT NO.	HOLDER SIZE W X H X L		BIT SIZE	
						INCH	MM	INCH	MM
ATH-0509	ATH-1987	ATH-0519	ATH-1989	ATH-0529	ATH-1988	5/16 x 3/4 x 4-1/2	8 x 19 x 114	3/16	4.76
ATH-0510	ATH-1990	ATH-0520	ATH-1992	ATH-0530	ATH-1991	3/8 x 7/8 x 5	9.5 x 22 x 127	1/4	6.35
ATH-0511	ATH-1993	ATH-0521	ATH-1995	ATH-0531	ATH-1994	1/2 x 1-1/8 x 6	13 x 28 x 152	5/16	7.93
ATH-0512	ATH-1996	ATH-0522	ATH-1998	ATH-0532	ATH-1997	5/8 x 1-3/8 x 7	16 x 35 x 178	3/8	9.52
ATH-0513	ATH-1999	ATH-0523	ATH-2001	ATH-0533	ATH-2000	3/4 x 1-5/8 x 8	19 x 41 x 203	7/16	11.11
ATH-0514	ATH-2002	ATH-0524	ATH-2004	ATH-0534	ATH-2003	7/8 x 1-3/4 x 9	22 x 44 x 228	1/2	12.70
ATH-0515	ATH-2005	ATH-0525	ATH-2007	ATH-0535	ATH-2006	1 x 2 x 11	25 x 50 x 280	5/8	15.87
ATH-0516	ATH-2008	ATH-0526	ATH-2010	ATH-0536	ATH-2009	1-1/4 x 2-1/4 x 13	32 x 57 x 330	3/4	19.05



55 CARBIDE TOOL HOLDERS

- Position of cutter is parallel to shank. This simplifies grinding cutter to correct rake and clearance
- Supplied with wrench but without bit
- Available in straight, left and right hand shanks

STRAIGHT SHANK CAT NO.	LEFT HAND OFF SET CAT NO.	RIGHT HAND OFF SET CAT NO.	HOLDER SIZE W X H X L	TOOL BIT SIZE	HEIGHT FROM BOTTOM OF SHANK TO CUTTER POINT
ATH-0880	ATH-0890	ATH-0900	3/8" x 15/16" x 6"	1/4"	11/16"
ATH-0881	ATH-0891	ATH-0901	1/2" x 1-1/4" x 7"	5/16"	7/8"
ATH-0882	ATH-0892	ATH-0902	5/8" x 1-1/2" x 8"	3/8"	1"
ATH-0883	ATH-0893	ATH-0903	3/4" x 1-3/4" x 9"	7/16"	1-1/8"
ATH-0884	ATH-0894	ATH-0904	7/8" x 1-7/8" x 10"	1/2"	1-1/4"

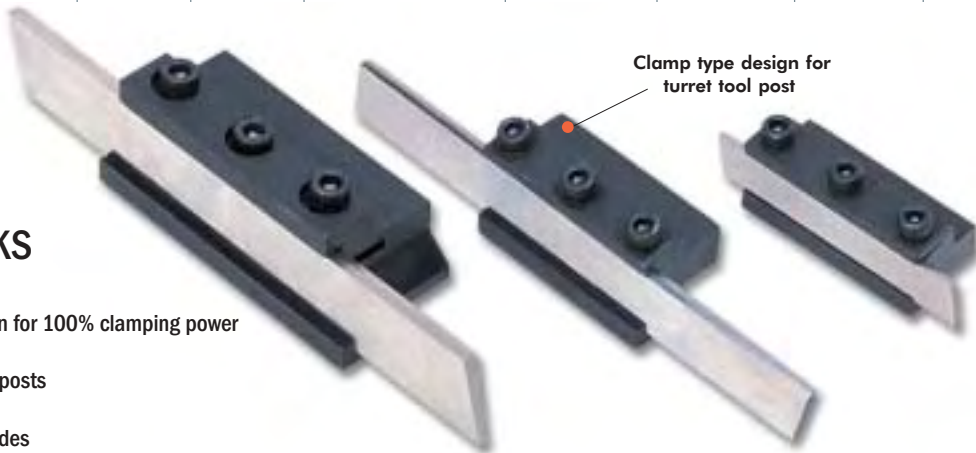
56

CUT OFF TOOL HOLDERS

- Heat treated hardened body
- Machined to precise tolerances
- Support the blade over a wide area, reducing chance of blade breakage
- Provided with one wrench
- Available in straight, left and right hand shanks
- Supplied with or without cut off blades of standard length



STRAIGHT CAT NO.	STRAIGHT WITH BLADE CAT NO.	LEFT HAND CAT NO.	LEFT HAND WITH BLADE CAT NO.	RIGHT HAND CAT NO.	RIGHT HAND WITH BLADE CAT NO.	HOLDER SIZE (W X H X L)		BLADE SIZE (W X H)	
						INCH	MM	INCH	MM
ATH-0418	ATH-2013	-	-	-	-	5/16 x 9/16 x 3-1/2	8 x 14 x 90	1/16 x 5/16	1.58 x 7.90
ATH-0419	ATH-2014	ATH-0429	ATH-2024	ATH-0439	ATH-2019	5/16 x 3/4 x 4-1/2	8 x 19 x 114	3/32 x 1/2	2.38 x 12.70
ATH-0420	ATH-2015	ATH-0430	ATH-2025	ATH-0440	ATH-2020	3/8 x 7/8 x 5	9.5 x 22 x 127	3/32 x 5/8	2.38 x 15.90
ATH-0421	ATH-2016	ATH-0431	ATH-2026	ATH-0441	ATH-2021	1/2 x 1-1/8 x 6	13 x 28 x 152	1/8 x 3/4	3.17 x 19.10
ATH-0422	ATH-2017	ATH-0432	ATH-2027	ATH-0442	ATH-2022	5/8 x 1-3/8 x 7	16 x 35 x 178	1/8 x 7/8	3.17 x 22.20
ATH-0423	ATH-2018	ATH-0433	ATH-2028	ATH-0443	ATH-2023	3/4 x 1-5/8 x 8	19 x 41 x 203	3/16 x 1	4.76 x 25.40
ATH-0424	ATH-5070	ATH-0434	ATH-5077	ATH-0444	ATH-5074	7/8 x 1-3/4 x 9	22 x 44 x 228	3/16 x 1-1/8	4.76 x 28.60
ATH-0425	ATH-5071	ATH-0435	ATH-5078	ATH-0445	ATH-5075	1 x 2 x 10	25 x 50 x 250	1/4 x 1-1/4	6.35 x 31.80
ATH-0426	ATH-5072	-	-	-	-	1-1/4 x 2-1/4 x 11	32 x 57 x 280	1/4 x 1-3/8	6.35 x 34.90



57

CUT OFF TOOL BLOCKS

- Tool blocks with rigid construction for 100% clamping power
- Hardened and tempered body
- Can be used on front or rear tool posts
- Black shining finish
- Supplied with or without HSS blades
- Provided with allen keys

CAT NO. HOLDER ONLY	CAT NO. HOLDER WITH HSS BLADE	CAT NO. HSS BLADE	SHANK SIZE		BODY SIZE (L X H X W)		BLADE SIZE (W X H X L)	
			INCH	MM	INCH	MM	INCH	MM
ATH-6291	ATH-6297	ATB-5399	3/8	10	2-1/8 x 15/16 x 1	55 x 23.5 x 25.5	3/32 x 1/2 x 3	2.5 x 12.7 x 75
ATH-6292	ATH-6298	ATB-6670	1/2	12.7	2-1/8 x 1-3/16 x 1-1/8	55 x 30.5 x 28	1/8 x 3/4 x 4	3.1 x 19.0 x 100
ATH-6293	ATH-6299	ATB-6671	3/4	20	3-1/2 x 1-1/2 x 1-7/16	90 x 38 x 36	3/16 x 1 x 4	4.8 x 25.4 x 100
ATH-6294	ATH-6300	ATB-6671	5/8	16	3-1/2 x 1-1/2 x 1-1/4	90 x 38 x 32	3/16 x 1 x 4	4.8 x 25.4 x 100

58 | MINI ROTARY TABLES

CAT NO.	DESCRIPTION
ART-5566	Rotary table 3"/75mm
ART-5561	Rotary table 4"/100mm



59 | MINI TOOL HOLDERS

- Ideal tool holders for mini lathes
- Accurately machined
- Heat Treated and Hardened body
- Provided with allen key
- Supplied with or without tool bits

TYPE OF HOLDER	CAT NO. HOLDER ONLY	CAT NO. HOLDER WITH TOOL BIT	CAT NO. SPARE TOOL BIT	HOLDER SIZE (W X H X L)		BIT SIZE (W X H X L)	
				INCH	MM	INCH	MM
Turning Straight	ATH-3317	ATH-6356	ATB-1889	5/16 x 5/16 x 3-3/8	8 x 8 x 85	1/8 x 1/8 x 1-1/4	3.15 x 3.15 x 32
Turning Left	ATH-3318	ATH-6357	ATB-1889	5/16 x 5/16 x 3-3/8	8 x 8 x 85	1/8 x 1/8 x 1-1/4	3.15 x 3.15 x 32
Turning Right	ATH-3319	ATH-6358	ATB-1889	5/16 x 5/16 x 3-3/8	8 x 8 x 85	1/8 x 1/8 x 1-1/4	3.15 x 3.15 x 32
Cut Off Straight	ATH-6290	ATH-6296	ATB-5398	5/16 x 5/16 x 3	8 x 8 x 75	1/16 x 3/16 x 2-1/2	1.45 x 5.0 x 62
	ATH-6359	Set of Straight, Left and Right Mini Turning Tool Holders Fitted with Tool Bits					



60 | QUICK CHANGE TOOL POST

- Useful tool post for quick changing
- Great for mini lathes
- Hardened and tempered body
- Comes with three allen keys
- Holder capacity upto 1/2" shank tools

CAT NO. TOOL POST WITH HOLDER	SIZE		CAT NO. SPARE HOLDER	HOLDER SIZE	
	INCH	MM		INCH	MM
ATH-6340	2-3/8 x 2-1/4 x 1-1/4	60 x 55 x 30	ATH-6341	2-3/16 x 1 x 1	55 x 25 x 25



61 | TURNING TOOL HOLDER INDEXABLE CARBIDE

- Versatility of cutting in any direction
- Built in chip breaker groove
- Heat treated and hardened shank
- No. grinding – no tool resetting
- Economical alternative to brazed tool tips
- Supplied without inserts

Style TE Neutral Threading Tool 60° included angle; used for universal threading, V-grooving, chamfering, turning, boring and facing

Style TBL Left Hand 15° Lead Angle for rough facing to center or where no shoulder is needed

Style TAL Left Hand suitable for facing to a square shoulder

Style TBR Right Hand 15° Lead Angle for rough turning where a square shoulder is not needed

Style TAR Right Hand suitable for machining to a 90° square shoulder.

CAT NO.	SQ SHANK SIZE	STYLE
AIH-1560	3/8"	TE6
AIH-1561	3/8"	TBL6
AIH-1562	3/8"	TAL6
AIH-1563	3/8"	TBR6
AIH-1564	3/8"	TAR6
AIH-1565	Set of Five Holders with 3/8" Shank for inserts IC 1/4", TH 1/8"	
AIH-1566	1/2"	TE8
AIH-1567	1/2"	TBL8
AIH-1568	1/2"	TAL8
AIH-1569	1/2"	TBR8
AIH-1570	1/2"	TAR8
AIH-1571	Set of Five Holders with 1/2" Shank for inserts IC 3/8", TH 1/8"	
AIH-1572	5/8"	TE10
AIH-1573	5/8"	TBL10
AIH-1574	5/8"	TAL10
AIH-1575	5/8"	TBR10
AIH-1576	5/8"	TAR10
AIH-1577	Set of Five Holders with 5/8" Shank for inserts IC 3/8", TH 1/8"	
AIH-1578	3/4"	TE12
AIH-1579	3/4"	TBL12
AIH-1580	3/4"	TAL12
AIH-1581	3/4"	TBR12
AIH-1582	3/4"	TAR12
AIH-1583	Set of Five Holders with 3/4" Shank for inserts IC 3/8", TH 1/8"	
AIH-1584	1"	TE16
AIH-1585	1"	TBL16
AIH-1586	1"	TAL16
AIH-1587	1"	TBR16
AIH-1588	1"	TAR16
AIH-1589	Set of Five Holders with 1" Shank for inserts IC 1/2"	
AIH-5281	Set of Five Holders with 1/4" Shank	
AIH-5282	Set of Five Holders with 5/16" Shank	



62 | MINI TAP WRENCHES – ECONO

- Low cost tapping tools for small job applications

CAT NO.	TAP CAPACITY
ATW-0070	1/4"
ATW-0071	1/2"
ATW-2280	2 pc set consisting of 1 each

63 | ADJUSTABLE TAP AND REAMER WRENCH

- High quality tool for hand tapping operations
- Hardened and tempered jaws

CAT NO.	TAP CAPACITY INCH	SQUARE SIZE MM	APPROX TOTAL LENGTH	
			INCH	MM
ATW-0075	1/16 - 1/4	2 - 6	7	180
ATW-0076	1/16 - 3/8	2.5 - 8	9	235
ATW-0077	5/32 - 1/2	4 - 9	11	280
ATW-0078	1/4 - 3/4	4.9 - 12	15	375
ATW-0079	1/4 - 1-1/8	5.5 - 16	20	500
ATW-0080	3/4 - 1-1/2	9 - 25	40	1000
ATW-0089	1-2-1/2	16 - 32	54	1370
ATS-2238	3 Pc Die Cast Body Straight Tap Wrench Set 1/4", 3/8", 1/2"			

64 | ROUND DIE STOCK HANDLES

- For holding adjustable round split dies
- Three set screw pattern
- Black finish
- Single piece construction

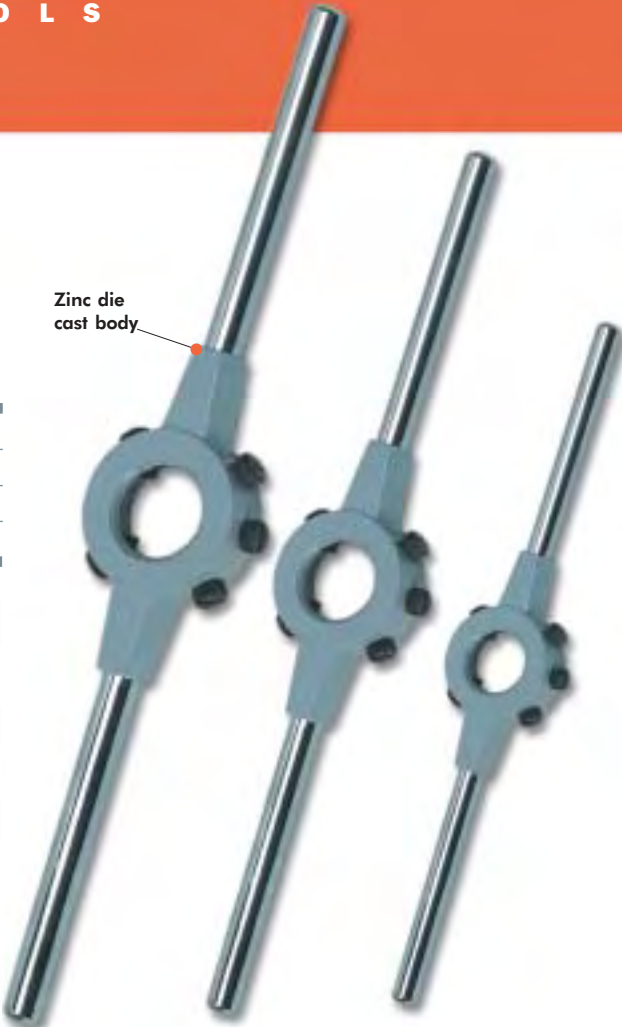
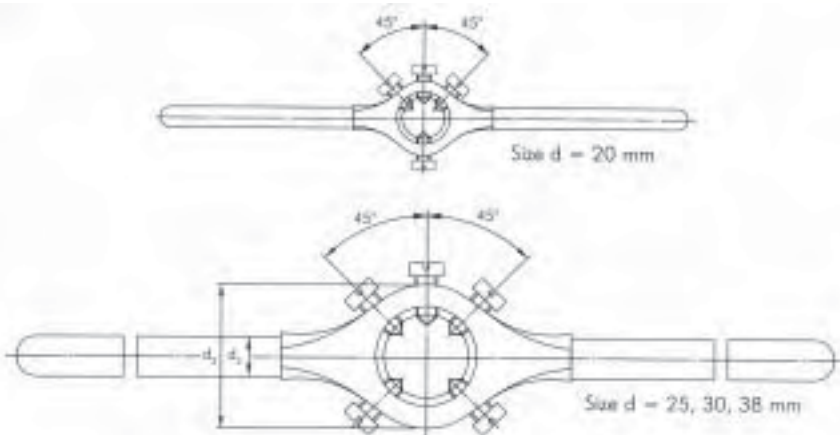
CAT NO.	OUTSIDE DIA OF DIE	APPROX LENGTH
ADH-0190	5/8"	5-1/2" / 140 MM
ADH-0191	13/16"	6-1/2" / 170 MM
ADH-0192	1"	8-1/2" / 220 MM
ADH-0298	1-5/16"	10" / 250 MM
ADH-0193	1-1/2"	12" / 300 MM
ADH-0194	2"	15" / 380 MM
ADH-0195	2-1/2"	19" / 480 MM
ADH-0196	3"	22" / 560 MM
ADH-0299	3-1/2"	24" / 610 MM
ADH-0197	4"	29" / 735 MM
ADH-0198	5"	33" / 835 MM
ADH-3320	4pc set consisting of 13/16", 1", 1-1/2", 2" die handles.m	



65 ROUND DIE STOCK HANDLES

- Manufactured as per DIN 225
- For holding adjustable round split dies
- Holder casted and handles chrome plated

CAT NO.	SIZE	BODY DIA D ₂	HANDLE DIA D ₃	TOTAL LENGTH
ADH-6216	20 x 7 MM	30 MM	7 MM	200 MM
ADH-6217	25 x 9 MM	36 MM	8 MM	224 MM
ADH-6218	30 x 11 MM	42 MM	10 MM	280 MM
ADH-6219	38 x 14 MM	52 MM	12 MM	315 MM



66 SELF ALIGNING TAP AND REAMER HOLDER

- Holds tap and reamer true, preventing breakage
- Hardened and replaceable jaws
- Set consists of tapping guide, tap holder and jaw A for capacity 1/4"/M8 tap and jaw B for capacity 1/4"-1/2" / M6-M12 tap

CAT NO.	DESCRIPTION
ATH-0390	Complete set
ATH-0392	Set of replacement jaws (A + B)



Vee groove sides
for cylindrical form

67 T-HANDLE TAP WRENCHES – SOLID JAW

- General purpose tap wrenches used in hand tapping operations
- Heavy knurled cap for a better grip
- Ground finish

CAT NO.	TAP CAPACITY	
	INCH	MM
ATW-0050	1/16 - 5/32	M1 - M4
ATW-0051	5/32 - 1/4	M4 - M8
ATW-0052	1/4 - 1/2	M6 - M12
ATW-0053	3 pc set consisting of 1 each in a box	



68 T-HANDLE TAP WRENCHES
REPLACEABLE JAWS

- Tap wrenches for hand tapping, drilling and reaming
- Jaws are hardened and tempered
- Jaws are replaceable and self equalizing
- Shiny ground finish
- Knurled chuck sleeve
- Available in plain type as well as ratchet type

CAT NO. PLAIN TYPE	CAT NO. RATCHET TYPE	TAP CAPACITY	
		INCH	MM
ATW-0055	ATW-0060	1/16 - 5/32	M1 - M4
ATW-0056	ATW-0061	5/32 - 1/4	M4 - M8
ATW-0057	ATW-0062	1/4 - 1/2	M6 - M12
ATW-1950	ATW-0069	3 pc set consisting of 1 each in a box	



|69|

EXTRA LONG TAP WRENCHES

- Hardened and tempered replaceable jaws
- 13" (330 mm) long
- Shiny ground finish

CAT NO. PLAIN	CAT NO. RATCHET TYPE	TAP CAPACITY	
		INCH	MM
ATW-0059	ATW-0063	5/32 - 1/4	M4 - M8
ATW-0058	ATW-0064	1/4 - 1/2	M6 - M12
ATW-1944	ATW-1945	2 pc set of 1/4" and 1/2"	

|70|

TAP EXTENSIONS

- Eliminates need for expensive, hard to get extension taps
- All steel construction with knurled grip chuck
- Attractive finish

CAT. NO.	LENGTH		TAP CAPACITY INCH
	INCH	MM	
ATW-0065	7-1/4	185	No. 0 to 12
ATW-0066	11	280	No. 12 to 1/2
ATW-1946	2 pc set consisting of 1 each in a box		

|71|

PILOTED SPINDLE TAPPER

- Tapping accessory for drill presses or lathes
- Used for threading a drilled hole manually at one machine location, without moving the work piece
- Ensures identical centerline of the tap and drilled hole
- Can also be used as an ordinary Tap Wrench
- Hardened and tempered jaws

CAT NO.	TAP CAPACITY INCH	SQUARE SIZE MM
APT-0496	1/16 - 1/4	3 - 5.0
APT-0497	1/4 - 1/2	5 - 7.0
APT-1947	2 pc set consisting of 1 each in a box	



72 INTERCHANGEABLE REVERSABLE TAP
WRENCH HOLDER SET

- Very handy tool set which includes reversible ratchet mechanism
- Consists of two chucks and two handles 4" (100 mm) and 7" (175 mm) long
- Both chucks and handles are interchangeable
- Chrome plated body

CAT NO.	SMALL CHUCK RANGE	BIG CHUCK RANGE
ATW-0380	5/32" - 1/4"	1/4" - 1/2"



73 TAP GUIDE - KNURLED BODY

- Knurled for easy handling
- 3/16" dia. hardened tension pin
- Spring loaded mechanism
- Reversible tension pin for male and female hole centering of tap
- With this tool you start every tap straight
- Packed in a plastic pouch

CAT NO.	SHANK DIA	
	INCH	MM
ATG-0395	1/2	12.7



74 MACHINE HAND TAP GUIDE

- Provides sensitive feel for hand tapping small holes on milling machines, drilling presses and lathes
- Starts every hole straight and prevents tap breakage
- 0 to no. 12 tap capacity

CAT NO.	SHANK DIA		BODY DIA		OVERALL LENGTH IN CLOSED POSITION	
	INCH	MM	INCH	MM	INCH	MM
ATG-0396	3/8	9.5	1	25.4	6-1/2	165



75

KNURLING TOOL HOLDERS

- Machined ground steel in shiny black finish
- Knurls are hob cut from high speed steel and heat treated
- Six knurl tool is provided with one pair each of fine medium and coarse knurls
- Two knurl tool is provided with medium knurls
- Replacement knurls are offered as a complete spare set for knurling tools

CAT NO. TOOL HOLDER	CAT NO. REPLACEMENT KNURLS	NO. OF KNURLS	SIZE OF HOLDER (W X H X L)		KNURL DIMENSIONS DIA X THICKNESS X HOLE	
			INCH	MM	INCH	MM
SELF ADJUSTING						
AKT-0170	AKS-1054	2	5/16 x 3/4 x 5	8 x 19 x 127	5/8 x 5/16 x 7/32	16 x 7.90 x 5.55
AKT-0171	AKS-1054	2	3/8 x 7/8 x 5-1/2	9.5 x 22 x 140	5/8 x 5/16 x 7/32	16 x 7.90 x 5.55
AKT-0172	AKS-1057	2	1/2 x 1-1/8 x 6-1/2	12.7 x 28 x 165	3/4 x 3/8 x 1/4	19 x 9.52 x 6.35
AKT-0173	AKS-1057	2	5/8 x 1-3/8 x 7-1/2	16 x 35 x 190	3/4 x 3/8 x 1/4	19 x 9.52 x 6.35
REVOLVING AKT-0174	AKS-1074	6	5/16 x 3/4 x 5	8 x 19 x 127	5/8 x 5/16 x 7/32	16 x 7.90 x 5.55
AKT-0175	AKS-1074	6	3/8 x 7/8 x 5-1/2	9.5 x 22 x 140	5/8 x 5/16 x 7/32	16 x 7.90 x 5.55
AKT-0176	AKS-1075	6	1/2 x 1-1/8 x 6-1/2	12.7 x 28 x 165	3/4 x 3/8 x 1/4	19 x 9.52 x 6.35
AKT-0177	AKS-1075	6	5/8 x 1-3/8 x 7-1/2	16 x 35 x 190	3/4 x 3/8 x 1/4	19 x 9.52 x 6.35
AKT-0199	AKS-1075	6	1/2 x 7/8 x 6-1/2	12.7 x 22 x 165	3/4 x 3/8 x 1/4	19 x 9.52 x 6.35
PIVOT HEAD AKT-0178	AKS-1057	2	1/2 x 1/2 x 4-1/2	12.7 x 12.7 x 115	3/4 x 3/8 x 1/4	19 x 9.52 x 6.35
SINGLE						
AKT-0179	AKS-1073	1	1/2 x 1/2 x 4	12.7 x 12.7 x 100	3/4 x 1/4 x 1/4	19 x 6.35 x 6.35
AKT-5450	2 Pc Knurling Tool set consisting of AKT-0178 and AKT-0179					
AKT-2206	3 Pc Complete Knurling Tool Kit consisting AKT-0176, AKT-0178 and AKT-0179					



76| KNURLING TOOL – QUICK ACTING

- Fast set up knurling tool;
- Minimizes pressure on lathes compound, centre or crossfeed screw
- Depth of knurling impression can be preset for production work
- Furnished with one set of medium diamond pattern knurls 3/4" x 3/8" x 1/4" (19 x 9.5 x 6.35)

CAT NO.	LENGTH		SHANK SIZE (H X W)		CAPACITY	
	INCH	MM	INCH	MM	INCH	MM
AKT-5451	6	150	1/2 x 5/8	12.7 x 15.87	1/16 - 2-1/4	1.6 - 57
AKT-5452	8-1/4	210	5/8 x 3/4	15.87 x 19.05	1-1/2 - 4-1/2	38 -114



77| SPARE KNURLS FOR KNURLING TOOL HOLDERS

- Made from heat treated and tempered high speed steel
- Knurls are individually cut to obtain sharp, perfectly formed teeth
- Diamond pattern knurls are provided as a set of right hand and left hand knurl

DIAMOND PATTERN	CAT NO.		DIAMETER	DIMENSIONS OF THICKNESS	KNURLS HOLE	TPI DIA
	STRAIGHT LINE PATTERN					
AKS-1053	AKS-1062		5/8"	5/16"	7/32"	14
AKS-1054	AKS-1063		5/8"	5/16"	7/32"	21
AKS-1055	AKS-1064		5/8"	5/16"	7/32"	33
AKS-1056	AKS-1065		3/4"	3/8"	1/4"	14
AKS-1057	AKS-1066		3/4"	3/8"	1/4"	21
AKS-1058	AKS-1067		3/4"	3/8"	1/4"	33



|78|

DOUBLE ENDED BORING BARS

- Machined from selected steel for greater strength and rigidity
- Broached holes to accept standard high speed steel and carbide tool bits
- Black oxide finish
- Bars have one end 45° and other 90°

CAT NO.	DIAMETER OF BAR	OVERALL LENGTH	BIT SIZE
ABB-0790	1/4"	5"	5/32" Round
ABB-0791	5/16"	5"	3/16" Round
ABB-0792	3/8"	6"	3/16" Round
ABB-0793	1/2"	6"	3/16" Square
ABB-0802	1/2"	9"	3/16" Square
ABB-0810	9/16"	6-3/4"	3/16" Square
ABB-0811	9/16"	6-3/4"	1/4" Square
ABB-0794	9/16"	9"	3/16" Square
ABB-0795	5/8"	10"	1/4" Square
ABB-0812	3/4"	8"	1/4" Square
ABB-0796	3/4"	12"	1/4" Square
ABB-0813	15/16"	9"	5/16" Square
ABB-0803	1"	12"	1/4" Square
ABB-0797	1"	12"	5/16" Square
ABB-0798	1"	12"	3/8" Square
ABB-0799	1-1/8"	14"	7/16" Square
ABB-0800	1-1/4"	16"	1/2" Square
ABB-0801	1-1/2"	18"	1/2" Square



SETS

CAT NO.	CAT NO. WITH TOOL BITS	DOUBLE END BORING BAR SET CONSISTING OF	CASE
ABS-0804	ABS-6675	1/4" x 5", 3/8" x 6, 1/2" x 6, 5/8" x 10", 3/4" x 12"	Wood Stand
ABS-0805*	ABS-6676*	3/8" x 6", 1/2" x 6, 5/8" x 10", 3/4" x 12", 1" x 12"	Wood Stand
ABS-0676	ABS-6677	1/4" x 5", 5/16" x 5", 3/8" x 6", 1/2" x 6"	Plastic Pouch

*Most Popular



79 DOUBLE ENDED BORING BARS WITH HOLDERS

- Made from tool steel
- Double ended boring bars and holder comes complete with screws and allen keys
- Black shining finish
- Supplied with or without tool bits
- Boring bars have one end 45° and other 90°

CAT NO.	CAT NO. WITH TOOL BIT	BAR SIZE		HOLDER SIZE		SUITABLE FOR SQUARE BIT SIZE
		DIA	LENGTH	LENGTH	SQUARE	
ABH-0731	ABH-5061	3/8"	4-1/2"	2-1/4"	1/2"	1/8"
ABH-0732	ABH-5062	7/16"	5-1/4"	2-1/2"	5/8"	3/16"
ABH-0733	ABH-5063	9/16"	6-3/4"	3"	5/8"	1/4"
ABH-0734	ABH-5064	3/4"	9-1/4"	3-3/4"	7/8"	5/16"
ABH-0735	ABH-5065	7/8"	11-1/2"	4-1/2"	1-1/4"	3/8"
ABH-0736	ABH-5066	1-1/8"	12-3/4"	4-1/2"	1-3/8"	7/16"
ABH-0737	ABH-5067	1-3/16"	13-3/4"	5"	1-5/8"	1/2"



80 DIE HOLDERS

- Ideal for short or medium run threading of shafts
- Can be used safely on lathes milling machines and tapping heads
- Single piece construction
- Shank length 1", body length 2" (51 mm)

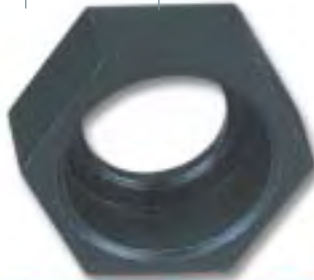
CAT NO.	OUTSIDE DIA OF DIE	SHANK DIAMETER	BODY DIA
ADH-0411	13/16"	1/2"	1-1/2"
ADH-0412	1"	1/2"	1-1/2"
ADH-0413	1-1/2"	3/4"	2"
ADH-3321	2 pc set consisting of 13/16" and 1"		
ADH-3322	3 pc set consisting of 13/16" and 1", 1-1/2"		



81 DIE ADAPTERS

- Easily converts round dies into hex dies. Just set the correct size die into adapter and tighten set screw
- Great tool to use where conventional die stocks cannot swing due to lack of space

CAT NO.	ROUND DIE
ADH-1860	13/16"
ADH-1861	1"
ADH-1862	1-1/2"
ADH-1863	2"
ADH-1864	2-1/2"
ADH-1865	3"
ADH-1894	4 pc set of 13/16", 1", 1-1/2", 2"



82

SAW HOLDERS

- Offers flexibility in sawing operations
- Spring load mechanism
- Blades are firmly secured in position with hex head screw
- Holds saws with 1/2", 3/4", 7/8" and 1" holes

CAT NO.	SHANK	OVERALL LENGTH
ATS-0410	1/2" ST, WELDON	2-1/2"
ATS-0414	R8	4-7/8"



83

FLY CUTTER HOLDERS

- Counterbalanced to get smoother finishes
- Machines upto 6" wide surface with standard tool bit
- Shiny black finish
- Sets supplied on wood stand

CAT NO.	CAT NO. WITH TOOL BIT	HEAD DIA		SHANK SIZE		TOOL BIT	
		INCH	MM	INCH	MM	INCH	MM
ATF-0480	ATF-6660	3/4	19	1/2	12.7	3/16	4.5
ATF-0481	ATF-6661	1-1/8	28	1/2	12.7	1/4	6.0
ATF-0482	ATF-6662	1-1/2	38	1/2	12.7	5/16	8
ATF-0484	ATF-6663	1-1/2	38	3/4	19	5/16	8
ATF-0485	ATF-6664	2	50.8	3/4	19	5/16	8
ATF-0486	ATF-6665	2-1/2	63.5	3/4	19	5/16	8
ATF-0487	ATF-0506	3 pc set of ATF-0484, 0485, 0486 (3/4" Shank)					
ATF-0483	ATF-5092	3 pc Set of ATF-0480, 0481, 0482 (1/2" Shank)					



84 5 PC FLY CUTTER HOLDER SET

- Consists of 4 pcs with 1/2" (12.7 mm) shank suitable for 3/16" (4.50 mm), 1/4" (6 mm), 5/16" (8 mm), 3/8" (9.5 mm) tool bits and 1 pc with 5/8" (15.8 mm) shank suitable for 1/2" (12.7 mm) tool bits
- Supplied in a wooden stand

CAT NO.	CAT NO. WITH TOOL BIT
ATF-0489	ATF-6667



85 R-8 FLY CUTTER

- Counterbalanced to get smoother finishes
- Made of single piece hardened steel

CAT NO.	CAT NO. WITH TOOL BIT	HEAD DIA		SUITABLE FOR TOOL BIT SIZE	
		INCH	MM	INCH	MM
ATF-0488	ATF-6666	2-1/2	63.5	3/8	9.5



|86| HAND DIAMOND DRESSERS

- Dressers fitted with plastic handle
- Shank diameter 7/16" (11.1 mm); overall length 8" (200 mm)
- Chrome finish body
- Ideal tool for dressing wheels for surface grinders, universal grinders, etc.

CAT NO.	DIAMOND SIZE
ADD-2551	1/4 Carat
ADD-2552	1/3 Carat
ADD-2553	1/2 Carat
ADD-2554	3/4 Carat
ADD-2555	1 Carat
ADD-2556	1-1/2 Carat
ADD-2557	2 Carat
ADD-2558	3 Carat
ADD-2559	4 Carat
ADD-2560	5 Carat



|87| DIAMOND DRESSERS WITH KNURLED BODY

CAT. NO.	SIZE OF SHANK		DIAMOND SIZE
	INCH	MM	
ADD-1800	1/2 x 8	12.7 x 203	1/4 Carat
ADD-1801	1/2 x 8	12.7 x 203	1/2 Carat
ADD-1802	1/2 x 8	12.7 x 203	3/4 Carat
ADD-1803	1/2 x 8	12.7 x 203	1 Carat
ADD-1804	1/2 x 8	12.7 x 203	1-1/2 Carat
ADD-1805	1/2 x 8	12.7 x 203	2 Carat
ADD-1806	1/2 x 8	12.7 x 203	3 Carat
ADD-1817	1/2 x 8	12.7 x 203	4 Carat
ADD-1820	1/2 x 8	12.7 x 203	5 Carat
ADD-1825	3pc. Set of 1/2" x 8" (12.7 mm x 203 mm) Diamond Dressers 1/2, 3/4 and 1 Carats		



88 | SINGLE POINT DIAMOND DRESSERS

- Ideal tool for dressing wheels for surface grinders, universal grinders etc.
- Available in different shank sizes
- Chrome finish body



CAT. NO.	SIZE OF SHANK		DIAMOND SIZE
	INCH	MM	
ADD-1750	1/4 x 1-1/2	6.35 x 38	1/4 Carat
ADD-1748	3/8 x 2	9.50 x 50	1/4 Carat
ADD-1751	3/8 x 3	9.50 x 76	1/4 Carat
ADD-1752	3/8 x 3	9.50 x 76	1/3 Carat
ADD-1753	3/8 x 3	9.50 x 76	1/2 Carat
ADD-1754	3/8 x 3	9.50 x 76	3/4 Carat
ADD-1755	3/8 x 3	9.50 x 76	1 Carat
ADD-1756	3/8 x 3	9.50 x 76	1-1/2 Carat
ADD-1757	3/8 x 3	9.50 x 76	2 Carat
ADD-1809	3/8 x 3	9.50 x 76	3 Carat
ADD-1774	7/16 x 2	11.1 x 50	1/4 Carat
ADD-1758	7/16 x 3	11.1 x 76	1/4 Carat
ADD-1759	7/16 x 3	11.1 x 76	1/3 Carat
ADD-1760	7/16 x 3	11.1 x 76	1/2 Carat
ADD-1761	7/16 x 3	11.1 x 76	3/4 Carat
ADD-1762	7/16 x 3	11.1 x 76	1 Carat
ADD-1763	7/16 x 3	11.1 x 76	1-1/2 Carat
ADD-1764	7/16 x 3	11.1 x 76	2 Carat
ADD-1765	7/16 x 3	11.1 x 76	3 Carat
ADD-1766	1/2 x 3	12.7 x 76	1/4 Carat
ADD-1767	1/2 x 3	12.7 x 76	1/3 Carat
ADD-1768	1/2 x 3	12.7 x 76	1/2 Carat
ADD-1769	1/2 x 3	12.7 x 76	3/4 Carat
ADD-1770	1/2 x 3	12.7 x 76	1 Carat
ADD-1771	1/2 x 3	12.7 x 76	1-1/2 Carat
ADD-1772	1/2 x 3	12.7 x 76	2 Carat
ADD-1773	1/2 x 3	12.7 x 76	3 Carat
ADD-1775	3/8 x 6	9.50 x 152	1/4 Carat
ADD-1776	3/8 x 6	9.50 x 152	1/3 Carat
ADD-1777	3/8 x 6	9.50 x 152	1/2 Carat
ADD-1778	3/8 x 6	9.50 x 152	3/4 Carat
ADD-1779	3/8 x 6	9.50 x 152	1 Carat
ADD-1780	3/8 x 6	9.50 x 152	1-1/2 Carat
ADD-1781	3/8 x 6	9.50 x 152	2 Carat
ADD-1821	3/8 x 6	9.50 x 152	2-1/2 Carat
ADD-1810	3/8 x 6	9.50 x 152	3 Carat
ADD-1811	3/8 x 6	9.50 x 152	4 Carat
ADD-1812	3/8 x 6	9.50 x 152	5 Carat
ADD-1782	7/16 x 6	11.1 x 152	1/4 Carat
ADD-1783	7/16 x 6	11.1 x 152	1/3 Carat
ADD-1784	7/16 x 6	11.1 x 152	1/2 Carat
ADD-1785	7/16 x 6	11.1 x 152	3/4 Carat
ADD-1786	7/16 x 6	11.1 x 152	1 Carat
ADD-1818	7/16 x 6	11.1 x 152	1-1/4 Carat
ADD-1787	7/16 x 6	11.1 x 152	1-1/2 Carat
ADD-1819	7/16 x 6	11.1 x 152	1-3/4 Carat
ADD-1788	7/16 x 6	11.1 x 152	2 Carat
ADD-1789	7/16 x 6	11.1 x 152	2-1/2 Carat
ADD-1790	7/16 x 6	11.1 x 152	3 Carat
ADD-1813	7/16 x 6	11.1 x 152	4 Carat
ADD-1814	7/16 x 6	11.1 x 152	5 Carat
ADD-1791	1/2 x 6	12.7 x 152	1/4 Carat
ADD-1792	1/2 x 6	12.7 x 152	1/3 Carat
ADD-1793	1/2 x 6	12.7 x 152	1/2 Carat
ADD-1794	1/2 x 6	12.7 x 152	3/4 Carat
ADD-1795	1/2 x 6	12.7 x 152	1 Carat
ADD-1796	1/2 x 6	12.7 x 152	1-1/2 Carat
ADD-1797	1/2 x 6	12.7 x 152	2 Carat
ADD-1798	1/2 x 6	12.7 x 152	2-1/2 Carat
ADD-1799	1/2 x 6	12.7 x 152	3 Carat
ADD-1815	1/2 x 6	12.7 x 152	4 Carat
ADD-1816	1/2 x 6	12.7 x 152	5 Carat
ADD-1822	3pc Set of 3/8" x 6" (9.50 mm x 152 mm) Diamond Dressers 1/2, 3/4 and 1 Carats.		
ADD-1823	3pc Set of 7/16" x 6" (11.1 mm x 152 mm) Diamond Dressers 1/2, 3/4 and 1 Carats.		
ADD-1824	3pc. Set of 1/2" x 6" (12.7 mm x 152 mm) Diamond Dressers 1/2, 3/4 and 1 Carats.		

89

WHEEL DRESSERS

- Sturdy construction
- Made of cast iron
- Must for every industry

CAT NO.	DESCRIPTION
AWD-0973	No. 0 for wheels upto 10" (250 mm) Dia. x 2" (50 mm)
AWD-0974	No. 1 for wheels upto 15" (380 mm) Dia. x 3" (75 mm)
AWD-0975	No. 2 for higher sizes wheels.
ATS-2214	3 Pc wheel dresser set no. 0, 1 and 2
AWD-0976	Spare cutter for no. 0 dresser.
AWD-0977	Spare cutter for no. 1 dresser.
AWD-0978	Spare cutter for no. 2 dresser.



90

HI-LOW ADJUSTABLE DRESSER

- Designed for use on all grinding machines
- Dress O.D. and face of wheels
- Adjustable to 7" (175 mm) height
- Rugged construction
- Includes 1/4 carat diamond dresser : 3/8" x 3" (9.5 x 75 mm)

CAT NO.	DESCRIPTION
ADH-1740	Complete, with Diamond Dresser
ADD-1751	Replacement Diamond Dresser only 3/8" x 3" (9.5 x 75 mm), 1/4 Carat



91 DIAMOND NIB HOLDER

- Designed for use on surface grinders
- Holds diamond dresser at proper 15° angle
- Base dimension : 2-1/2" x 6" (63.5 mm x 152 mm)
- Key-way : 1/2" wide x 7/8" (12.7 mm x 22.2 mm)
- Includes 1/4 carat diamond dresser 7/16" x 2" (11 x 50 mm)

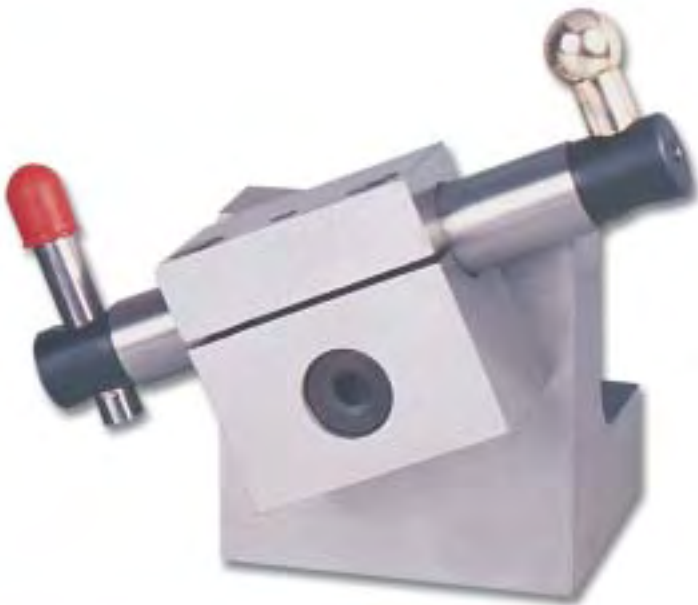


CAT NO.	DESCRIPTION
ADH-1739	Holder only, without Diamond Dresser
ADH-1742	Complete, with Diamond Dresser
ADD-1774	Replacement Diamond Dresser only 7/16" x 2 (11 x 50 mm), 1/4 Carat

92 LOW-BOY ANGLE DRESSER

- Designed for use on all grinding machines
- Base angle-plate is heavy, precision ground and square on all six sides
- Side block pivots on hardened shoulder screws
- Includes 1/4 carat diamond dresser 3/8" x 2" (9.5 x 50 mm)

CAT NO.	DESCRIPTION
ADH-1741	Complete, with Diamond Dresser
ADD-1748	Replacement 1/4 Carat Diamond Dresser only 3/8" x 2" (9.5 x 50 mm)



OSCAR



CUTTING TOOLS



1 CHUCKING REAMERS
FRACTION SIZES
(STRAIGHT SHANK AND STRAIGHT FLUTE)

- Design for use in turret lathes, screw machines, drill presses and all type of machine tool equipment
- Ground with a 45° chamfer, suitable for reaming most materials
- Use for difficult to ream materials
- Made from high speed steel

MANUFACTURING SPECIFICATIONS:
ROTATION OF CUTTING: RIGHT HAND
FLUTE FORM: STRAIGHT
SHANK FORM: STRAIGHT
DESIGN FEATURES: TO ANSI B94.2
TOLERANCE: SEE TABLE

	RANGE	TOLERANCE
Size of reamer	Upto 1/4 incl.	+ 0.0001 to 0.0004
	Over 1/4 to 1 incl.	+ 0.0001 to 0.0005
	Over 1	+ 0.0002 to 0.0006
Overall length	1/16 to 1 incl. 1 1/16 to 2 incl.	± 1/16 ± 3/32
Flute length	1/16 to 1 incl. 1 1/16 to 2 incl.	± 1/16 ± 3/32

All dimensions in Inches



SIZE	DECIMAL EQUIVALENT	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	CAT NO.
1/16"	.0625"	1/2"	2-1/2"	4	ARC-3185
5/64"	.0781"	3/4"	3"	4	ARC-3186
3/32"	.0937"	3/4"	3"	4	ARC-3187
7/64"	.1094"	7/8"	3-1/2"	4	ARC-3224
1/8"	.1250"	7/8"	3-1/2"	4	ARC-3225
9/64"	.1406"	1"	4"	4	ARC-3226
5/32"	.1562"	1"	4"	4	ARC-3227
11/64"	.1719"	1-1/8"	4-1/2"	6	ARC-3228
3/16"	.1875"	1-1/8"	4-1/2"	6	ARC-3229
13/64"	.2031"	1-1/4"	5"	6	ARC-3230
7/32"	.2188"	1-1/4"	5"	6	ARC-3231
15/64"	.2344"	1-1/2"	6"	6	ARC-3232
1/4"	.2500"	1-1/2"	6"	6	ARC-3233
17/64"	.2656"	1-1/2"	6"	6	ARC-3234
9/32"	.2812"	1-1/2"	6"	6	ARC-3235
19/64"	.2969"	1-1/2"	6"	6	ARC-3236
5/16"	.3125"	1-1/2"	6"	6	ARC-3237
21/64"	.3281"	1-1/2"	6"	6	ARC-3238
11/32"	.3438"	1-1/2"	6"	6	ARC-3239
23/64"	.3594"	1-3/4"	7"	6	ARC-3240
3/8"	.3750"	1-3/4"	7"	6	ARC-3241
25/64"	.3906"	1-3/4"	7"	6	ARC-3242
13/32"	.4062"	1-3/4"	7"	6	ARC-3243
27/64"	.4219"	1-3/4"	7"	6	ARC-3244
7/16"	.4375"	1-3/4"	7"	6	ARC-3245
29/64"	.4531"	1-3/4"	7"	6	ARC-3246
15/32"	.4688"	1-3/4"	7"	6	ARC-3247
31/64"	.4844"	2"	8"	6	ARC-3248
1/2"	.5000"	2"	8"	6	ARC-3249
33/64"	.5156"	2"	8"	6	ARC-5961
17/32"	.5312"	2"	8"	6	ARC-3250
35/64"	.5469"	2"	8"	6	ARC-5962
9/16"	.5625"	2"	8"	6	ARC-3251
37/64"	.5781"	2"	8"	6	ARC-5963
19/32"	.5938"	2"	8"	6	ARC-3252
39/64"	.6094"	2-1/4"	9"	8	ARC-5964
5/8"	.6250"	2-1/4"	9"	8	ARC-3253
41/64"	.6406"	2-1/4"	9"	8	ARC-5965
21/32"	.6562"	2-1/4"	9"	8	ARC-3254
43/64"	.6719"	2-1/4"	9"	8	ARC-5966
11/16"	.6875"	2-1/4"	9"	8	ARC-3255
45/64"	.7031"	2-1/4"	9"	8	ARC-5967
23/32"	.7188"	2-1/4"	9"	8	ARC-3256
47/64"	.7344"	2-1/4"	9"	8	ARC-5968
3/4"	.7500"	2-1/2"	9-1/2"	8	ARC-3257
49/64"	.7656"	2-1/2"	9-1/2"	8	ARC-5969
25/32"	.7812"	2-1/2"	9-1/2"	8	ARC-3258
51/64"	.7969"	2-1/2"	9-1/2"	8	ARC-5970
13/16"	.8125"	2-1/2"	9-1/2"	8	ARC-3259
53/64"	.8281"	2-1/2"	9-1/2"	8	ARC-5971

OZAR

CUTTING TOOLS

SIZE	DECIMAL EQUIVALENT	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	CAT NO.
27/32"	.8438"	2-1/2"	9-1/2"	8	ARC-3260
55/64"	.8594"	2-1/2"	9-1/2"	8	ARC-5972
7/8"	.8750"	2-5/8"	10"	8	ARC-3261
57/64"	.8906"	2-5/8"	10"	8	ARC-5973
29/32"	.9062"	2-5/8"	10"	8	ARC-3262
59/64"	.9219"	2-5/8"	10"	8	ARC-5974
15/16"	.9375"	2-5/8"	10"	8	ARC-3263
61/64"	.9531"	2-5/8"	10"	8	ARC-5975
31/32"	.9688"	2-5/8"	10"	8	ARC-3264
63/64"	.9844"	2-5/8"	10"	8	ARC-5976
1"	1.0000"	2-3/4"	10-1/2"	8	ARC-3265
1-1/32"	1.0312"	2-3/4"	10-1/2"	10	ARC-5977
1-1/16"	1.0625"	2-3/4"	10-1/2"	10	ARC-3266
1-3/32"	1.0938"	2-3/4"	10-1/2"	10	ARC-5978
1-1/8"	1.1250"	2-7/8"	11"	10	ARC-3267
1-5/32"	1.1563"	2-7/8"	11"	10	ARC-5979
1-3/16"	1.1875"	2-7/8"	11"	10	ARC-3268
1-1/4"	1.2500"	3"	11-1/2"	10	ARC-3269
1-5/16"	1.3125"	3-1/4"	12"	10	ARC-3270
1-3/8"	1.3750"	3-1/4"	12"	12	ARC-3271
1-7/16"	1.4375"	3-1/2"	12-1/2"	12	ARC-3272
1-1/2"	1.5000"	3-1/2"	12-1/2"	12	ARC-3273
1-9/16"	1.5625"	3-1/2"	12-1/2"	12	ARC-5980
1-5/8"	1.6250"	3-1/2"	12-1/2"	12	ARC-5981
1-11/16"	1.6875"	3-1/2"	12-1/2"	12	ARC-5982
1-3/4"	1.7500"	3-1/2"	12-1/2"	12	ARC-5983
1-7/8"	1.8750"	3-1/2"	12-1/2"	12	ARC-5984
2"	2.0000"	3-1/2"	12-1/2"	12	ARC-5985

SETS OF CHUCKING REAMERS

CAT NO.	NO. OF PCS	RANGE
ARC-3276	7	1/8" to 1/2" by 1/16"
ARC-3274	25	1/8" to 1/2" by 1/64"
ARC-3277	29	1/16" to 1/2" by 1/64"
ARC-5854	14	INCH & METRIC SET 1/8" , 3/16", 1/4" , 5/16", 3/8", 7/16", 1/2" and 3, 4, 5, 6, 8, 10 and 12 mm

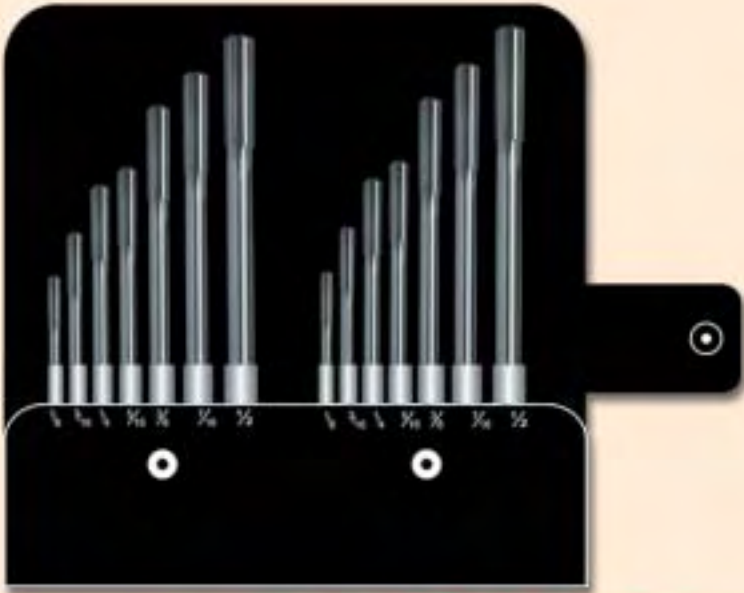


2 CHUCKING REAMERS OVER AND UNDER SIZES
(STRAIGHT SHANK AND STRAIGHT FLUTE)

SIZE	DECIMAL EQUIVALENT	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	CAT NO.
1/8"-.001"	.124"	7/8"	3-1/2"	4	ARC-3418
1/8"+.001"	.126"	7/8"	3-1/2"	4	ARC-3411
3/16"-.001"	.1865"	1-1/8"	4-1/2"	6	ARC-3419
3/16"+.001"	.1885"	1-1/8"	4-1/2"	6	ARC-3412
1/4"-.001"	.249"	1-1/2"	6"	6	ARC-3420
1/4"+.001"	.251"	1-1/2"	6"	6	ARC-3413
5/16"-.001"	.3115"	1-1/2"	6"	6	ARC-3421
5/16"+.001"	.3135"	1-1/2"	6"	6	ARC-3414
3/8"-.001"	.374"	1-3/4"	7"	6	ARC-3422
3/8"+.001"	.376"	1-3/4"	7"	6	ARC-3415
7/16"-.001"	.4365"	1-3/4"	7"	6	ARC-3423
7/16"+.001"	.4385"	1-3/4"	7"	6	ARC-3416
1/2"-.001"	.499"	2"	8"	6	ARC-3424
1/2"+.001"	.501"	2"	8"	6	ARC-3417
5/8"-.001"	.624"	2-1/4"	9"	8	ARC-5951
5/8"+.001"	.626"	2-1/4"	9"	8	ARC-5952
3/4"-.001"	.749"	2-1/2"	9-1/2"	8	ARC-5953
3/4"+.001"	.751"	2-1/2"	9-1/2"	8	ARC-5954
7/8"-.001"	.874"	2-5/8"	10"	8	ARC-5955
7/8"+.001"	.876"	2-5/8"	10"	8	ARC-5956

SET OF OVER AND UNDER CHUCKING REAMERS

CAT NO.	NO. OF PCS.	RANGE	DESCRIPTION
ARC-3275	14	1/8" to 1/2" by 1/16" (.124 through .501)	Straight Shank and Straight Flute



3 CHUCKING REAMERS NUMBER SIZES
(STRAIGHT SHANK AND STRAIGHT FLUTE)

SIZE	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	CAT NO.
1	1-1/2"	6"	6	ARC-5861
2	1-1/2"	6"	6	ARC-5862
3	1-1/4"	5"	6	ARC-5863
4	1-1/4"	5"	6	ARC-5864
5	1-1/4"	5"	6	ARC-5865
6	1-1/4"	5"	6	ARC-5866
7	1-1/4"	5"	6	ARC-5867
8	1-1/4"	5"	6	ARC-5868
9	1-1/4"	5"	6	ARC-5869
10	1-1/4"	5"	6	ARC-5870
11	1-1/4"	5"	6	ARC-5871
12	1-1/8"	4-1/2"	6	ARC-5872
13	1-1/8"	4-1/2"	6	ARC-5873
14	1-1/8"	4-1/2"	6	ARC-5874
15	1-1/8"	4-1/2"	6	ARC-5875
16	1-1/8"	4-1/2"	6	ARC-5876
17	1-1/8"	4-1/2"	6	ARC-5877
18	1-1/8"	4-1/2"	6	ARC-5878
19	1-1/8"	4-1/2"	6	ARC-5879
20	1-1/8"	4-1/2"	4	ARC-5880
21	1-1/8"	4-1/2"	4	ARC-5881
22	1"	4"	4	ARC-5882
23	1"	4"	4	ARC-5883
24	1"	4"	4	ARC-5884
25	1"	4"	4	ARC-5885
26	1"	4"	4	ARC-5886
27	1"	4"	4	ARC-5887
28	1"	4"	4	ARC-5888
29	1"	4"	4	ARC-5889
30	7/8"	3-1/2"	4	ARC-5890

SIZE	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	CAT NO.
31	7/8"	3-1/2"	4	ARC-5891
32	7/8"	3-1/2"	4	ARC-5892
33	7/8"	3-1/2"	4	ARC-5893
34	7/8"	3-1/2"	4	ARC-5894
35	7/8"	3-1/2"	4	ARC-5895
36	7/8"	3-1/2"	4	ARC-5896
37	7/8"	3-1/2"	4	ARC-5897
38	7/8"	3-1/2"	4	ARC-5898
39	7/8"	3-1/2"	4	ARC-5899
40	7/8"	3-1/2"	4	ARC-5900
41	7/8"	3-1/2"	4	ARC-5901
42	3/4"	3"	4	ARC-5902
43	3/4"	3"	4	ARC-5903
44	3/4"	3"	4	ARC-5904
45	3/4"	3"	4	ARC-5905
46	3/4"	3"	4	ARC-5906
47	3/4"	3"	4	ARC-5907
48	3/4"	3"	4	ARC-5908
49	3/4"	3"	4	ARC-5909
50	3/4"	3"	4	ARC-5910
51	3/4"	3"	4	ARC-5911
52	1/2"	2-1/2"	4	ARC-5912
53	1/2"	2-1/2"	4	ARC-5913
54	1/2"	2-1/2"	4	ARC-5914
55	1/2"	2-1/2"	4	ARC-5915
56	1/2"	2-1/2"	4	ARC-5916
57	1/2"	2-1/2"	4	ARC-5917
58	1/2"	2-1/2"	4	ARC-5918
59	1/2"	2-1/2"	4	ARC-5919
60	1/2"	2-1/2"	4	ARC-5920

30 PC. SET OF NUMBER SIZES 1 TO 30 CHUCKING REAMERS STRAIGHT SHANK AND STRAIGHT FLUTE – ARC - 5921

4 CHUCKING REAMERS DOWEL PIN SIZES
(STRAIGHT SHANK AND STRAIGHT FLUTE)

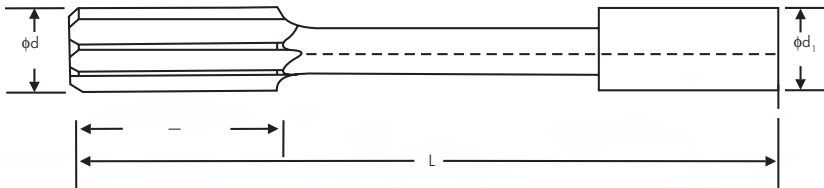
SIZE	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	CAT NO.
.1230"	7/8"	3-1/2"	4	ARC-5931
.1247"	7/8"	3-1/2"	4	ARC-5932
.1855"	1-1/8"	4-1/2"	6	ARC-5933
.1870"	1-1/8"	4-1/2"	6	ARC-5934
.2480"	1-1/2"	6"	6	ARC-5935
.2495"	1-1/2"	6"	6	ARC-5936
.3105"	1-1/2"	6"	6	ARC-5937
.3120"	1-1/2"	6"	6	ARC-5938
.3730"	1-3/4"	7"	6	ARC-5939
.3745"	1-3/4"	7"	6	ARC-5940
.4355"	1-3/4"	7"	6	ARC-5941
.4370"	1-3/4"	7"	6	ARC-5942
.4980"	2"	8"	6	ARC-5943
.4995"	2"	8"	6	ARC-5944

14 PC. SET OF DOWEL PIN CHUCKING REAMERS
STRAIGHT SHANK & STRAIGHT FLUTE – ARC-5946

5 CHUCKING REAMERS METRIC SIZES
(STRAIGHT SHANK AND STRAIGHT FLUTE)

SIZE ϕd	SHANK d_1 h_9 TOLERANCE	FLUTE LENGTH l	OVERALL LENGTH L	CAT NO.
2.0 mm	2.0 mm	11 mm	49 mm	ARC 6830
2.5 mm	2.5 mm	14 mm	57 mm	ARC 6831
3.0 mm	3.0 mm	15 mm	61 mm	ARC 6832
3.5 mm	3.5 mm	18 mm	70 mm	ARC 6833
4.0 mm	4.0 mm	19 mm	75 mm	ARC 6834
4.5 mm	4.5 mm	21 mm	80 mm	ARC 6835
5.0 mm	5.0 mm	23 mm	86 mm	ARC 6836
5.5 mm	5.6 mm	26 mm	93 mm	ARC 6837
6.0 mm	5.6 mm	26 mm	93 mm	ARC 6838
7.0 mm	7.1 mm	31 mm	109 mm	ARC 6839
8.0 mm	8.0 mm	33 mm	117 mm	ARC 6840
9.0 mm	9.0 mm	36 mm	125 mm	ARC 6841
10.0 mm	10.0 mm	38 mm	133 mm	ARC 6842
11.0 mm	10.0 mm	41 mm	142 mm	ARC 6843
12.0 mm	10.0 mm	44 mm	151 mm	ARC 6844

Manufacturing specifications:
ROTATION OF CUTTING: Right hand
FLUTE FORM: Straight
SHANK FORM: Straight
DESIGN FEATURES: to ISO 521/DIN 212B.



6 | CHUCKING REAMERS LETTER SIZES
 (STRAIGHT SHANK AND STRAIGHT FLUTE)

- Reaming is a finishing operation and is not intended to remove a large amount of material
- The speed for reaming is generally considered to be two-thirds of the speed used for drilling the same material
- Reaming feeds are higher than drilling feeds because there are more teeth in the reamer
- General requirement of all metal-cutting tools including reamers is that the tool be harder than the material being cut

SIZE	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	CAT NO.
A	1-1/2"	6"	6	ARC-5650
B	1-1/2"	6"	6	ARC-5651
C	1-1/2"	6"	6	ARC-5652
D	1-1/2"	6"	6	ARC-5653
E	1-1/2"	6"	6	ARC-5654
F	1-1/2"	6"	6	ARC-5655
G	1-1/2"	6"	6	ARC-5656
H	1-1/2"	6"	6	ARC-5657
I	1-1/2"	6"	6	ARC-5658
J	1-1/2"	6"	6	ARC-5659
K	1-1/2"	6"	6	ARC-5660
L	1-1/2"	6"	6	ARC-5661
M	1-1/2"	6"	6	ARC-5662
N	1-1/2"	6"	6	ARC-5663
O	1-1/2"	6"	6	ARC-5664
P	1-1/2"	6"	6	ARC-5665
Q	1-1/2"	6"	6	ARC-5666
R	1-1/2"	6"	6	ARC-5667
S	1-3/4"	7"	6	ARC-5668
T	1-3/4"	7"	6	ARC-5669
U	1-3/4"	7"	6	ARC-5670
V	1-3/4"	7"	6	ARC-5671
W	1-3/4"	7"	6	ARC-5672
X	1-3/4"	7"	6	ARC-5673
Y	1-3/4"	7"	6	ARC-5674
Z	1-3/4"	7"	6	ARC-5675

26 PC. SET OF LETTER SIZES A TO Z CHUCKING REAMERS
 STRAIGHT SHANK AND STRAIGHT FLUTE - ARC - 5676

7 | CHUCKING REAMERS METRIC SIZES
(STRAIGHT SHANK, STRAIGHT FLUTE, EXTRA LONG LENGTH)

SIZE	FLUTE LENGTH		OVERALL LENGTH		NO. OF FLUTES	CAT NO.
	INCH	MM	INCH	MM		
1.0 mm	1/2"	12.7	1-5/8"	40	3	ARC-5801
1.5 mm	1/2"	12.7	2-1/2"	63.5	4	ARC-5802
2.0 mm	3/4"	19	3"	75	4	ARC-5803
2.5 mm	7/8"	22	3-1/2"	90	4	ARC-5804
3.0 mm	7/8"	22	3-1/2"	90	4	ARC-5805
3.5 mm	1"	25	4"	100	4	ARC-5806
4.0 mm	1-1/8"	29	4-1/2"	115	6	ARC-5807
4.5 mm	1-1/8"	29	4-1/2"	115	6	ARC-5808
5.0 mm	1-1/4"	32	5"	127	6	ARC-5809
5.5 mm	1-1/4"	32	5"	127	6	ARC-5810
6.0 mm	1-1/2"	38	6"	152	6	ARC-5811
6.5 mm	1-1/2"	38	6"	152	6	ARC-5812
7.0 mm	1-1/2"	38	6"	152	6	ARC-5813
7.5 mm	1-1/2"	38	6"	152	6	ARC-5814
8.0 mm	1-1/2"	38	6"	152	6	ARC-5815
8.5 mm	1-1/2"	38	6"	152	6	ARC-5816
9.0 mm	1-3/4"	44	7"	178	6	ARC-5817
9.5 mm	1-3/4"	44	7"	178	6	ARC-5818
10.0 mm	1-3/4"	44	7"	178	6	ARC-5819
10.5 mm	1-3/4"	44	7"	178	6	ARC-5820
11.0 mm	1-3/4"	44	7"	178	6	ARC-5821
11.5 mm	1-3/4"	44	7"	178	6	ARC-5822
12.0 mm	1-3/4"	44	7"	178	6	ARC-5823
12.5 mm	2"	51	8"	203	6	ARC-5824
13.0 mm	2"	51	8"	203	6	ARC-5825
13.5 mm	2"	51	8"	203	6	ARC-5826
14.0 mm	2"	51	8"	203	6	ARC-5827
14.5 mm	2"	51	8"	203	6	ARC-5828
15.0 mm	2"	51	8"	203	6	ARC-5829
15.5 mm	2-1/4"	57	9"	228	8	ARC-5830
16.0 mm	2-1/4"	57	9"	228	8	ARC-5831
16.5 mm	2-1/4"	57	9"	228	8	ARC-5832
17.0 mm	2-1/4"	57	9"	228	8	ARC-5833
17.5 mm	2-1/4"	57	9"	228	8	ARC-5834
18.0 mm	2-1/4"	57	9"	228	8	ARC-5835
18.5 mm	2-1/2"	63.5	9-1/2"	240	8	ARC-5836
19.0 mm	2-1/2"	63.5	9-1/2"	240	8	ARC-5837
19.5 mm	2-1/2"	63.5	9-1/2"	240	8	ARC-5838
20.0 mm	2-1/2"	63.5	9-1/2"	240	8	ARC-5839
20.5 mm	2-1/2"	63.5	9-1/2"	240	8	ARC-5840
21.0 mm	2-1/2"	63.5	9-1/2"	240	8	ARC-5841
21.5 mm	2-5/8"	66.5	10"	255	8	ARC-5842
22.0 mm	2-5/8"	66.5	10"	255	8	ARC-5843
22.5 mm	2-5/8"	66.5	10"	255	8	ARC-5844
23.0 mm	2-5/8"	66.5	10"	255	8	ARC-5845
23.5 mm	2-5/8"	66.5	10"	255	8	ARC-5846
24.0 mm	2-5/8"	66.5	10"	255	8	ARC-5847
24.5 mm	2-5/8"	66.5	10"	255	8	ARC-5848
25.0 mm	2-3/4"	70	10-1/2"	267	8	ARC-5849

SETS OF METRIC CHUCKING REAMERS
(Straight Shank and straight flute Extra Long Length)

CAT NO.	NO. OF PCS.	RANGE
ARC-5851	7	1 to 7 mm by 1 mm
ARC-5852	13	1 to 7 mm by 0.5 mm
ARC-5853	25	1 to 13 mm by 0.5 mm
ARC-5854	14	INCH & Metric Set 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" and 3, 4, 5, 6, 8, 10 and 12 mm.

8 TAPER PIPE REAMERS

- Designed for reaming holes to be tapped with American standard taper pipe taps (NPT)
- 3/4" taper per foot
- Generally used by hand
- Available with straight or spiral flutes and square shank
- Made from high speed steel
- Each set is supplied in a plastic pouch with reamer sizes clearly marked

N.P.T SIZE	FLUTE LENGTH	NOMINAL DIAMETER		OVERALL LENGTH	CAT NO. FOR	
		LARGE END	SMALL END		SPIRAL FLUTE	STRAIGHT FLUTE
1/8"	3/4"	.362"	.316"	2-1/8"	ATR-2701	ATR-2940
1/4"	1-1/16"	.472"	.406"	2-7/16"	ATR-2702	ATR-2941
3/8"	1-1/16"	.606"	.540"	2-9/16"	ATR-2703	ATR-2942
1/2"	1-3/8"	.751"	.665"	3-1/8"	ATR-2704	ATR-2943
3/4"	1-3/8"	.962"	.876"	3-1/4"	ATR-2705	ATR-2944
1"	1-3/4"	1.212"	1.103"	3-3/4"	ATR-2706	ATR-2945
1-1/4"	1-3/4"	1.553"	1.444"	4"	ATR-2707	ATR-2946
1-1/2"	1-3/4"	1.793"	1.684"	4-1/4"	ATR-2708	ATR-2947
2"	1-3/4"	2.268	2.159"	4-1/2"	ATR-2709	ATR-2948

Manufacturing specifications:
ROTATION OF CUTTING: Right hand
FLUTE FORM: Straight, spiral
DESIGN FEATURES: to ANSI B94.2

SETS OF TAPER PIPE REAMERS

RANGE	NO. OF PCS	CAT NO. FOR	
		SPIRAL FLUTE	STRAIGHT FLUTE
1/4", 3/8", and 1/2"	3	ATR-2729	ATR-2730
3/8", 1/2", 3/4" and 1"	4	ATR-2700	ATR-2949
1/4", 3/8", 1/2", 3/4" and 1"	5	ATR-2710	ATR-2950



9 | TAPER PIN REAMERS (TAPER 1 IN 48)

- Use to ream holes for standard taper pins
- 1/4" taper per foot (1 in 48)
- Available in straight, spiral or helical flutes
- Straight and spiral flute are intended for hand reaming in easy to ream materials
- Helical flute is designed for machined reaming
- Helical construction helps prevent chips from clogging in flutes, minimizing breakage
- Made from high speed steel

SIZE	SHANK DIA	DIAMETER		FLUTE LENGTH	OVERALL LENGTH	CAT NO. FOR		
		SMALL END	LARGE END			STRAIGHT FLUTE	SPIRAL FLUTE	HELICAL FLUTE
7/0	5/64"	.0497"	.0666"	13/16"	1-13/16"	ATR-2560	ATR-2581	ATR-2602
6/0	3/32"	.0611"	.0806"	15/16"	1-15/16"	ATR-2561	ATR-2582	ATR-2603
5/0	7/64"	.0719"	.0966"	1-3/16"	2-3/16"	ATR-2562	ATR-2583	ATR-2604
4/0	1/8"	.0869"	.1142"	1-5/16"	2-5/16"	ATR-2563	ATR-2584	ATR-2605
3/0	9/64"	.1029"	.1302"	1-5/16"	2-5/16"	ATR-2564	ATR-2585	ATR-2606
2/0	5/32"	.1137"	.1462"	1-9/16"	2-9/16"	ATR-2565	ATR-2586	ATR-2607
0	11/64"	.1287"	.1638"	1-11/16"	2-15/16"	ATR-2566	ATR-2587	ATR-2608
1	3/16"	.1447"	.1798"	1-11/16"	2-15/16"	ATR-2567	ATR-2588	ATR-2609
2	13/64"	.1605"	.2008"	1-15/16"	3-3/16"	ATR-2568	ATR-2589	ATR-2610
3	15/64"	.1813"	.2294"	2-5/16"	3-11/16"	ATR-2569	ATR-2590	ATR-2611
4	17/64"	.2071"	.2604"	2-9/16"	4-1/16"	ATR-2570	ATR-2591	ATR-2612
5	5/16"	.2409"	.2994"	2-13/16"	4-5/16"	ATR-2571	ATR-2592	ATR-2613
6	23/64"	.2773"	.3540"	3-11/16"	5-7/16"	ATR-2572	ATR-2593	ATR-2614
7	13/32"	.3297"	.4220"	4-7/16"	6-5/16"	ATR-2573	ATR-2594	ATR-2615
8	7/16"	.3971"	.5050"	5-3/16"	7-3/16"	ATR-2574	ATR-2595	ATR-2616
9	9/16"	.4805"	.6066"	6-1/16"	8-5/16"	ATR-2575	ATR-2596	ATR-2617
10	5/8"	.5799"	.7216"	6-13/16"	9-5/16"	ATR-2576	ATR-2597	ATR-2618
11	3/4"	.7060"	.8780"	8-1/4"	11-1/4"	ATR-2577	ATR-2598	ATR-2619
12	7/8"	.8420"	1.0500"	10"	13-5/8"	ATR-2578	ATR-2599	ATR-2620
13	1-1/4"	1.0090"	1.2590"	12"	16"	ATR-2579	ATR-2600	ATR-2621
14	1-1/2"	1.2500"	1.5420"	14"	18-1/4"	ATR-2580	ATR-2601	ATR-2622



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CUTTING TOOLS

SETS OF TAPER PIN REAMERS

RANGE PCS	NO. OF FLUTE	STRAIGHT FLUTE	CAT NO. FOR SPIRAL FLUTE	HELICAL
7/0 to 0	7	ATR-2640	ATR-2641	ATR-2642
0 to 5	6	ATR-2623	ATR-2625	ATR-2627
0 to 10	11	ATR-2624	ATR-2626	ATR-2628
7/0 to 10	17	ATR-2643	ATR-2644	ATR-2645

Manufacturing specifications:
 ROTATION OF CUTTING: Right hand
 FLUTE FORM: Straight, spiral, helical
 DESIGN FEATURES: to ANSI B94.2
 TOLERANCE: See Table

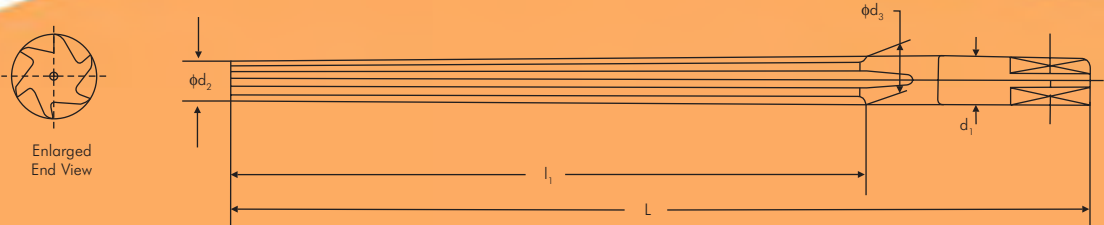
	RANGE	TOLERANCE
Overall length	7/0 to 14 incl.	± 1/16
Flute length	7/0 to 14 incl.	± 1/16
Shank diameter	7/0 to 14 incl.	- 0.001 to 0.005
Square size for straight, spiral	7/0 to 7 incl.	- 0.004
	8 to 14 incl.	- 0.006
Shank dia for helical	7/0 to 14 incl.	- 0.0005
		- 0.002

All dimensions are given in inches

10 TAPER PIN REAMERS STRAIGHT FLUTE (TAPER 1 IN 50)

SIZE	SHANK DIA d ₁	DIAMETER		FLUTE LENGTH l ₁	OVERALL LENGTH l	CAT NO.
		SMALL END d ₂	LARGE END d ₃			
2 mm	3.15 mm	1.9 mm	2.86 mm	48 mm	68 mm	ATR-6089
3 mm	4.0 mm	2.9 mm	4.06 mm	58 mm	80 mm	ATR-6090
4 mm	5.0 mm	3.9 mm	5.26 mm	68 mm	93 mm	ATR-6091
5 mm	6.3 mm	4.9 mm	6.36 mm	73 mm	100 mm	ATR-6092
6 mm	8.0 mm	5.9 mm	8.00 mm	105 mm	135 mm	ATR-6093
8 mm	10.0 mm	7.9 mm	10.80 mm	145 mm	180 mm	ATR-6094
10 mm	12.5 mm	9.9 mm	13.40 mm	175 mm	215 mm	ATR-6095
12 mm	14.0 mm	11.8 mm	16.00 mm	210 mm	255 mm	ATR-6096
14 mm	15.0 mm	13.8 mm	18.00 mm	210 mm	255 mm	ATR-6099
16 mm	18.0 mm	15.8 mm	20.40 mm	230 mm	280 mm	ATR-6097
18 mm	18.0 mm	17.8 mm	22.40 mm	230 mm	280 mm	ATR-6100
20 mm	22.4 mm	19.8 mm	24.80 mm	250 mm	310 mm	ATR-6098

Manufacturing specifications:
 ROTATION OF CUTTING: Right hand
 FLUTE FORM: Straight
 DESIGN FEATURES: ISO3465/DIN 9 Form A



11 MORSE TAPER FINISHING REAMERS – STRAIGHT FLUTE

- Used for finishing
- Available with straight shank or taper shank
- Taper shank is used for production machine reaming of tapered holes for morse taper shanks
- Straight shank is used for finishing or removal of burrs and nicks in machine spindles
- Square end on straight shank allows reamer to be held in a tap wrench
- Made from high speed steel

SIZE	DIAMETER OF REAMER		FLUTE LENGTH	OVERALL LENGTH		CAT NO. FOR	
	SMALL END	LARGE END		HAND STYLE	MACHINE STYLE	HAND STYLE	MACHINE STYLE
0MT	.2503"	.3674"	2-1/4"	3-3/4"	5-11/32"	ATR-2711	ATR-2718
1MT	.3674"	.5170"	3"	5"	6-5/16"	ATR-2712	ATR-2719
2MT	.5696"	.7444"	3-1/2"	6"	7-3/8"	ATR-2713	ATR-2720
3MT	.7748"	.9881"	4-1/4"	7-1/4"	8-7/8"	ATR-2714	ATR-2721
4MT	1.0167"	1.2893"	5-1/4"	8-1/2"	10-7/8"	ATR-2715	ATR-2722
5MT	1.4717"	1.8005"	6-1/4"	9-3/4"	13-1/8"	ATR-2716	ATR-2723
6MT	2.1119"	2.5550"	8-1/2"	12-1/2"	-	ATR-2717	
4 PC Set of Finishing Reamers 1 MT to 4 MT						ATR-2725	ATR-4125
5 PC Set of Finishing Reamers 1 MT to 5 MT						ATR-2726	ATR-4126



12 MORSE TAPER ROUGHING REAMERS – STRAIGHT FLUTE

SIZE END	DIAMETER OF REAMER		FLUTE STYLE	OVERALL LENGTH		CAT NO. FOR	
	SMALL END	LARGE LENGTH		HAND STYLE	MACHINE STYLE	HAND STYLE	MACHINE
0 MT	.233"	.350"	2-1/4"	3-3/4"	5-11/32"	ATR-4951	ATR-4958
1 MT	.350"	.500"	3"	5"	6-5/16"	ATR-4952	ATR-4959
2 MT	.553"	.728"	3-1/2"	6"	7-3/8"	ATR-4953	ATR-4960
3 MT	.757"	.970"	4-1/4"	7-1/4"	8-7/8"	ATR-4954	ATR-4961
4 MT	1.000"	1.270"	5-1/4"	8-1/2"	10-7/8"	ATR-4955	ATR-4962
5 MT	1.453"	1.783"	6-1/4"	9-3/4"	13-1/8"	ATR-4956	ATR-4963
4 PC. Set of MORSE TAPER ROUGHING REAMERS MT1 to MT4						ATR-4965	ATR-4966



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CUTTING TOOLS

13 | ADJUSTABLE HAND REAMERS

- Each reamer expands to the smallest size of next larger size
- Reamers are used for light cut, repair work, removing stock or simply for enlarging holes
- Reamers can be hand operated by use of wrenches. The size can be adjusted by moving the blades in tapered slots by means of loosening one nut and tightening the other
- Blades are hardened and ground

SIZE	RANGE		NO. OF BLADES	CAT NO.
	INCH	MM		
8/A	1/4 to 9/32	6.35 to 7.14	4	AAR-1080
7/A	9/32 to 5/16	7.14 to 7.94	4	AAR-1081
6/A	5/16 to 11/32	7.94 to 8.73	4	AAR-1082
5/A	11/32 to 3/8	8.73 to 9.52	5	AAR-1083
4/A	3/8 to 13/32	9.52 to 10.32	6	AAR-1084
3/A	13/32 to 7/16	10.32 to 11.11	6	AAR-1085
2/A	7/16 to 15/32	11.11 to 11.91	6	AAR-1086
A	15/32 to 17/32	11.91 to 13.49	6	AAR-1087
B	17/32 to 19/32	13.49 to 15.08	6	AAR-1088
C	19/32 to 21/32	15.08 to 16.67	6	AAR-1089
D	21/32 to 23/32	16.67 to 18.26	6	AAR-1090
E	23/32 to 25/32	18.26 to 19.84	6	AAR-1091
F	25/32 to 27/32	19.84 to 21.43	6	AAR-1092
G	27/32 to 15/16	21.43 to 23.81	6	AAR-1093
H	15/16 to 1-1/16	23.81 to 26.99	6	AAR-1094
I	1-1/16 to 1-3/16	26.99 to 30.16	6	AAR-1095
J	1-3/16 to 1-11/32	30.16 to 34.13	6	AAR-1096
K	1-11/32 to 1-1/2	34.13 to 38.10	6	AAR-1097
L	1-1/2 to 1-13/16	38.10 to 46.04	6	AAR-1101
M	1-13/16 to 2-7/32	46.04 to 56.36	6	AAR-1102
N	2-7/32 to 2-3/4	56.36 to 69.85	6	AAR-1103
O	2-3/4 to 3-11/32	69.85 to 84.93	6	AAR-1104

SETS OF ADJUSTABLE HAND REAMERS

- Each set is supplied in fine finished wooden box
- Each box is clearly marked with different reamer sizes to facilitate convenient storages

CAT NO.	RANGE	
AAR-1157	Set of 3 Reamers	(4/A to 2/A)
AAR-1105	Set of 4 Reamers	(8/A to 5/A)
AAR-1098	Set of 7 Reamers	(8/A to 2/A)
AAR-1150	Set of 6 Reamers	(A to F)
AAR-1099	Set of 8 Reamers	(A to H)
AAR-1148	Set of 6 Reamers	(C to H)
AAR-1149	Set of 9 Reamers	(C to K)
AAR-1100	Set of 11 Reamers	(A to K)
AAR-1166	Set of 16 Reamers	(4/A to M)

14 | CENTER REAMERS
(SHORT COUNTERSINKS 3-FLUTE)

- Designed for counter sinking holes for centers or for enlarging existing hole
- Odd number of flutes eliminates chatter in most applications, while providing better accuracy than a single flute countersink
- Available in 60°, 82° or 90°
- Made from high speed steel

Manufacturing specifications:
ROTATION OF CUTTING: Right hand
ANGLE: 60°/82°/90°
SHANK FORM: Straight
DESIGN FEATURES: to ANSI B94.2
TOLERANCE:
Shank diameter – 0.0005" to 0.002"
Overall length ± 1/8" for size upto 3/8"
± 3/16" for size upto 2"

SIZE	SHANK DIA	OVERALL LENGTH	CAT NO. FOR		
			60°	82°	90°
1/4"	3/16"	1-1/2"	ACR-2751	ACR-2761	ACR-2771
3/8"	1/4"	1-3/4"	ACR-2752	ACR-2762	ACR-2772
1/2"	3/8"	2"	ACR-2753	ACR-2763	ACR-2773
5/8"	3/8"	2-1/4"	ACR-2754	ACR-2764	ACR-2774
3/4"	1/2"	2-5/8"	ACR-2755	ACR-2765	ACR-2775
1"	1/2"	2-3/4"	ACR-2756	ACR-2766	ACR-2776
1-1/4"	3/4"	3-1/2"	ACR-2757	ACR-2767	ACR-2777
1-1/2"	3/4"	3-1/2"	ACR-2758	ACR-2768	ACR-2778
2"	3/4"	3-3/4"	ACR-2759	ACR-2769	ACR-2779

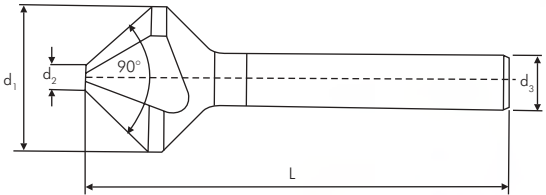
SETS OF CENTER REAMERS

RANGE	NO. OF PCS.	CASE	CAT NO. FOR		
			60°	82°	90°
1/4", 3/8" and 1/2"	3	Plastic Pouch	ACR-2784	ACR-2785	ACR-2786
1/4", 3/8", 1/2", 3/4" and 1"	5	Wood Stand	ACR-2781	ACR-2782	ACR-2783



15 | COUNTERSINKS 90°
(DIN-335 FORM C)

- 3 cutting edges designed for chatter free countersinking
- Nominal diameter is tapered towards the shank
- Made from high speed steel



NOMINAL DIA d1	SMALL DIA d2	SHANK DIA d3	OVERALL LENGTH L	CAT NO.
6.3 mm	1.5 mm	5 mm	45 mm	ACS 6790
7.3 mm	1.8 mm	6 mm	50 mm	ACS 6791
8.3 mm	2.0 mm	6 mm	50 mm	ACS 6792
9.4 mm	2.2 mm	6 mm	50 mm	ACS 6793
10.4 mm	2.5 mm	6 mm	50 mm	ACS 6794
12.4 mm	2.8 mm	8 mm	56 mm	ACS 6795
16.5 mm	3.2 mm	10 mm	60 mm	ACS 6796
20.5 mm	3.5 mm	10 mm	63 mm	ACS 6797
23.0 mm	3.8 mm	10 mm	67 mm	ACS 6798
25.0 mm	3.8 mm	10 mm	67 mm	ACS 6799
31.0 mm	4.2 mm	12 mm	71 mm	ACS 6800

Manufacturing specifications:
ROTATION OF CUTTING: Right hand
ANGLE: 90°
NO. OF FLUTES: 3
SHANK FORM: Straight
DESIGN FEATURES: to DIN 335 form C



16

SINGLE FLUTE
COUNTERSINKS

- Designed for machine use and light, portable work
- Ideal for chamfering, deburring and counter sinking
- Single flute construction and low controlled relief provide chatterless operation and smooth surface finish
- Versatility of this tool should increase productivity on all general purpose applications
- Available in 60°, 82° or 90°
- Made from high speed steel

SIZE	SHANK DIA	OVERALL LENGTH	CAT NO. FOR			
			60°	82°	90°	100°
3/16"	3/16"	1-1/2"	ACS-3173	ACS-3191	ACS-3206	ACS-3281
1/4"	1/4"	2"	ACS-3174	ACS-3192	ACS-3207	ACS-3282
5/16"	1/4"	2"	ACS-3175	ACS-3193	ACS-3208	ACS-3283
3/8"	1/4"	2"	ACS-3176	ACS-3194	ACS-3209	ACS-3284
1/2"	1/4"	2"	ACS-3177	ACS-3195	ACS-3210	ACS-3285
5/8"	1/2"	2-1/4"	ACS-3178	ACS-3196	ACS-3211	ACS-3286
3/4"	1/2"	2-3/4"	ACS-3179	ACS-3197	ACS-3212	ACS-3287
7/8"	1/2"	2-3/4"	ACS-3180	ACS-3198	ACS-3213	ACS-3288
1"	1/2"	2-3/4"	ACS-3181	ACS-3199	ACS-3214	ACS-3289
1-1/4"	3/4"	3"	ACS-3182	ACS-3200	ACS-3215	ACS-3290
1-1/2"	3/4"	3-3/8"	ACS-3183	ACS-3201	ACS-3216	ACS-3291
2"	3/4"	3-3/4"	ACS-3184	ACS-3202	ACS-3217	ACS-3292

SETS OF SINGLE FLUTE COUNTERSINKS

RANGE	NO. OF PCS.	CASE	CAT NO. FOR		
			60°	82°	90°
1/4",3/8" & 1/2"	3	Plastic Pouch	ACS-3188	ACS-3189	ACS-3190
1/4",3/8", 1/2", 3/4" and 1"	5	Wood Stand	ACS-3218	ACS-3219	ACS-3220
3/16",1/4",5/16", 3/8",1/2", 5/8", 3/4", 7/8" and 1"	9	Wood Stand	ACS-3221	ACS-3222	ACS-3223
3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1-1/4", 1-1/2" & 2"	12	Wood Stand	ACS-3203	ACS-3204	ACS-3205



17 SIX FLUTE COUNTERSINKS

- Designed for economical, general purpose countersinking, chamfering or deburring
- Chip loads are generally smaller and chatter free machining is possible
- Chatterless countersinks are designed to give you fast shearing cuts
- Available in 60°, 82° or 90°
- Made from high speed steel



SIZE	SHANK DIA	OVERALL LENGTH	CAT NO. FOR		
			60°	82°	90°
3/16"	3/16"	1-1/2"	ACS-3121	ACS-3136	ACS-3151
1/4"	1/4"	2"	ACS-3122	ACS-3137	ACS-3152
5/16"	1/4"	2"	ACS-3123	ACS-3138	ACS-3153
3/8"	1/4"	2"	ACS-3124	ACS-3139	ACS-3154
1/2"	1/4"	2"	ACS-3125	ACS-3140	ACS-3155
5/8"	1/2"	2-3/4"	ACS-3126	ACS-3141	ACS-3156
3/4"	1/2"	2-3/4"	ACS-3127	ACS-3142	ACS-3157
7/8"	1/2"	2-3/4"	ACS-3128	ACS-3143	ACS-3158
1"	1/2"	2-3/4"	ACS-3129	ACS-3144	ACS-3159
1-1/4"	3/4"	3-3/8"	ACS-3130	ACS-3145	ACS-3160
1-1/2"	3/4"	3-1/2"	ACS-3131	ACS-3146	ACS-3161
1-3/4"	1"	4-1/4"	ACS-3132	ACS-3147	ACS-3162
2"	1"	4-3/8"	ACS-3133	ACS-3148	ACS-3163

SETS OF SIX FLUTE COUNTERSINKS

RANGE	NO. OF PCS.	CASE	CAT NO. FOR		
			60°	82°	90°
1/4", 3/8" and 1/2"	3	Plastic Pouch	ACS-3134	ACS-3135	ACS-3150
1/4", 3/8", 1/2", 3/4" and 1"	5	Wood Stand	ACS-3164	ACS-3165	ACS-3166
1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8" and 1"	8	Wood Stand	ACS-3167	ACS-3168	ACS-3169
3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1" and 1-1/4"	10	Wood Stand	ACS-3170	ACS-3171	ACS-3172

18 PLAIN COMBINED DRILLS & COUNTERSINKS CENTRE DRILLS

- Used for producing center holes in components or workpieces which require machining between centers
- 60° countersink angle fits all standard centers
- Available in 60°/82°
- Made from high speed steel

AS PER ANSI B94.11M

SIZE	BODY DIA A	DRILL DIA D	OVERALL DIA L	CAT NO. FOR	
				60°	82°
1	1/8"	3/64"	1-1/4"	ADC-2854	ADC-2866
2	3/16"	5/64"	1-7/8"	ADC-2855	ADC-2867
3	1/4"	7/64"	2"	ADC-2856	ADC-2868
4	5/16"	1/8"	2-1/8"	ADC-2857	ADC-2869
4-1/2	3/8"	9/64"	2-1/2"	ADC-2858	-
5	7/16"	3/16"	2-3/4"	ADC-2859	ADC-2870
6	1/2"	7/32"	3"	ADC-2860	ADC-2871
7	5/8"	1/4"	3-1/4"	ADC-2861	ADC-2872
8	3/4"	5/16"	3-1/2"	ADC-2862	ADC-2873

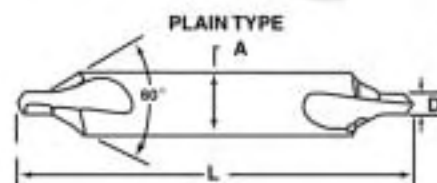
SETS OF CENTRE DRILLS

RANGE	NO. OF PCS.	CAT NO. FOR	
		60°	82°
1 to 5	5	ADC-2908	ADC-2874
1 to 4	4	ADC-2850	ADC-2846

19 SOCKET CAPSCREW COUNTER BORES

- Use for enlarging holes for the socket heads of cap screws
- Can also be used for spot facing, enlarging or cleaning holes
- Solid pilot design will not damage pilot hole
- Made from high speed steel

SCREW SIZE	PILOT DIA	CUTTING DIA	SHANK DIA	OVERALL LENGTH	CAT NO.
5	.141"	.221"	3/16"	3"	ACB-3380
6	.150"	.242"	7/32"	3"	ACB-3381
8	11/64"	19/64"	1/4"	3"	ACB-3382
10	13/64"	21/64"	5/16"	3-1/2"	ACB-3383
1/4"	9/32"	13/32"	3/8"	5"	ACB-3384
5/16"	11/32"	1/2"	7/16"	5"	ACB-3385
3/8"	13/32"	19/32"	1/2"	6"	ACB-3386
7/16"	15/32"	11/16"	1/2"	7"	ACB-3387
1/2"	17/32"	25/32"	3/4"	7-1/2"	ACB-3388
5/8"	21/32"	31/32"	3/4"	7-1/2"	ACB-3389
3/4"	25/32"	1-3/16"	1"	8"	ACB-3390



AS PER ISO 866 TYPE A (METRIC)

BODY DIA A	DRILL DIA D	OVERALL LENGTH L	CAT NO. 60°
3.15 mm	1.0 mm	31.50 mm	ADC-5211
4.0 mm	1.6 mm	35.50 mm	ADC-5212
5.0 mm	2.0 mm	40.00 mm	ADC-5213
6.3 mm	2.5 mm	45.00 mm	ADC-5214
8.0 mm	3.15 mm	50.00 mm	ADC-5215
5 PC. Set of THE ABOVE SIZES in Plastic Pouch			ADC-5216

Manufacturing specifications:
Rotation of cutting: Right hand
Shank Form: Straight and parallel with solid pilot
No. of Flutes: Three
Tolerance: See table

	RANGE	TOLERANCE
Cutting dia	Upto 3/4"	+ 0.010"
		+ 0.005"
	3/4" to 2"	+ 0.015"
Shank dia		+ 0.010"
	3/16" to 1/2"	+ 0
		- 0.0005"
Pilot dia	3/4" to 1"	+ 0
		- 0.001"
	upto 1"	+ 0
		- 0.0005"

SETS OF COUNTER BORES

RANGE	NO. OF PCS.	CAT NO.
6, 8, 10 & 1/4"	4	ACB-3378
10, 1/4, 5/16 & 3/8"	4	ACB-3374
1/4, 5/16, 3/8, 1/2"	4	ACB-3379
6, 8, 10, 1/4, 5/16, 3/8, 1/2"	7	ACB-3393
1/4, 5/16, 3/8, 1/2, 5/8, 3/4"	6	ACB-3394



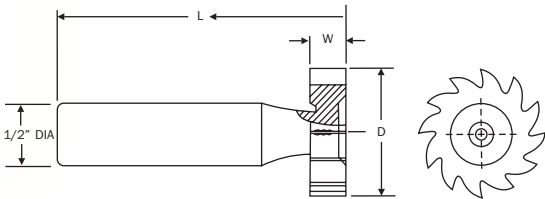
20 WOODRUFF KEY SEAT CUTTERS
(STRAIGHT TOOTH)

- Designed to mill standard woodruff keyseats
- Can also perform general purpose milling operations
- Suitable for cutting ferrous and non-ferrous materials
- All sizes have 1/2" diameter shanks
- Made from high speed steel

SIZES	NO. OF PCS.	CASE	CAT NO.
204, 304, 305, 406, 605, 606, 608 & 806	8	Wood Stand	MCW-5743
204, 305, 403, 404, 406, 505, 606, 608 & 806	9	Wood Stand	MCW-5744*
204, 305, 403, 404, 406, 505, 606, 608, 806, 808	10	Wood Stand	MCW-5742

*Most popular

Manufacturing specifications:
ROTATION OF CUTTING: Right hand
SHANK FORM: Straight and parallel
TEETH FORM: Straight
DESIGN FEATURES: to ANSI B94.19



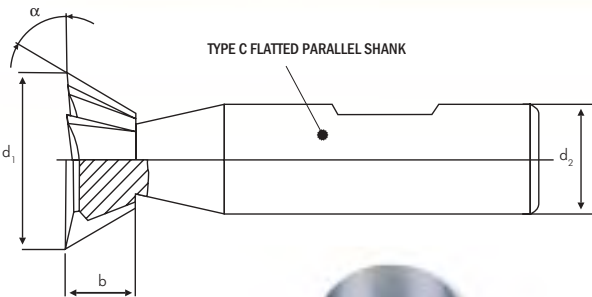
AMERICAN STANDARD*	DIAMETER D	FACE WIDTH W	OVERALL LENGTH L	CAT NO.
202	1/4"	1/16"	2-1/16"	ACW-5701
202-1/2	5/16"	1/16"	2-1/16"	ACW-5702
302-1/2	5/16"	3/32"	2-3/32"	ACW-5703
203	3/8"	1/16"	2-1/16"	ACW-5704
303	3/8"	3/32"	2-3/32"	ACW-5705
403	3/8"	1/8"	2-1/8"	ACW-5706
204	1/2"	1/16"	2-1/16"	ACW-5707
304	1/2"	3/32"	2-3/32"	ACW-5708
305	5/8"	3/32"	2-3/32"	ACW-5709
404	1/2"	1/8"	2-1/8"	ACW-5710
405	5/8"	1/8"	2-1/8"	ACW-5711
406	3/4"	1/8"	2-1/8"	ACW-5712
505	5/8"	5/32"	2-5/32"	ACW-5713
605	5/8"	3/16"	2-3/16"	ACW-5714
506	3/4"	5/32"	2-5/32"	ACW-5715
806	3/4"	1/4"	2-1/4"	ACW-5716
507	7/8"	5/32"	2-5/32"	ACW-5717
606	3/4"	3/16"	2-3/16"	ACW-5718
607	7/8"	3/16"	2-3/16"	ACW-5719
707	7/8"	7/32"	2-7/32"	ACW- 5720
608	1"	3/16"	2-3/16"	ACW-5721
708	1"	7/32"	2-7/32"	ACW-5722
1208	1"	3/8"	2-3/8"	ACW-5723
609	1-1/8"	3/16"	2-3/16"	ACW-5724
807	7/8"	1/4"	2-1/4"	ACW-5725
808	1"	1/4"	2-1/4"	ACW-5726
709	1-1/8"	7/32"	2-7/32"	ACW-5727
809	1-1/8"	1/4"	2-1/4"	ACW-5728
610	1-1/4"	3/16"	2-3/16"	ACW-5729
710	1-1/4"	7/32"	2-7/32"	ACW-5730
810	1-1/4"	1/4"	2-1/4"	ACW-5731
811	1-3/8"	1/4"	2-1/4"	ACW-5732
812	1-1/2"	1/4"	2-1/4"	ACW-5733
1008	1"	5/16"	2-5/16"	ACW-5734
1009	1-1/8"	5/16"	2-5/16"	ACW-5735
1010	1-1/4"	5/16"	2-5/16"	ACW-5736
1011	1-3/8"	5/16"	2-5/16"	ACW-5737
1012	1-1/2"	5/16"	2-5/16"	ACW-5738
1210	1-1/4"	3/8"	2-3/8"	ACW-5739
1211	1-3/8"	3/8"	2-3/8"	ACW-5740
1212	1-1/2"	3/8"	2-3/8"	ACW-5741

*The last two digits give the Diameter in eighths of an inch and the digits preceding the last two give the nominal width in thirty-seconds of an inch.

[21] SINGLE ANGLE DOVETAIL CUTTERS

- Use to produce dovetail slideways in machine tool tables, jigs and fixtures
- Designed to take the place of arbor type cutters
- Can be used both in manual and CNC machines
- Suitable for use in a wide range of ferrous and non-ferrous materials
- Available in 45° or 60°
- Made of high speed steel

Manufacturing specifications:
 ROTATION OF CUTTING: Right hand
 SHANK FORM: Straight with Weldon cut
 DESIGN FEATURES: to ANSI B94.19
 TOLERANCE: Size ± 0.015"
 Cutter width ± 0.015"
 Shank dia - 0.0001"
 - 0.0005"
 Overall length ± 1/16"



WELDON SHANK



A) SINGLE ANGLE DOVETAIL CUTTERS AS PER ANSI/ASME B94.19

SIZE D1	CUTTER WIDTH		SHANK DIA	OVERALL LENGTH	CAT NO. FOR	
	45°	60°			45°	60°
3/8"	1/8"	3/16"	3/8"	2-1/8"	ACD-2731	ACD-2739
1/2"	5/32"	1/4"	3/8"	2-1/8"	ACD-2732	ACD-2740
3/4"	1/4"	5/16"	3/8"	2-1/8"	ACD-2733	ACD-2741
1"	1/4"	7/16"	1/2"	2-1/2"	ACD-2734	ACD-2742
1-3/8"	7/16"	9/16"	5/8"	2-7/8"	ACD-2735	ACD-2743
1-7/8"	9/16"	13/16"	7/8"	3-1/4"	ACD-2736	ACD-2744
2-1/4"	5/8"	1-1/16"	1"	3-3/4"	ACD-2737	ACD-2745
2-1/2"	3/4"	1-1/8"	1"	3-3/4"	ACD-2738	ACD-2746

SETS OF DOVETAIL CUTTERS

RANGE	NO. OF PCS	CASE	CAT NO. FOR	
			45°	60°
3/8", 1/2" and 3/4"	3	Wood Stand	ACD-2749	ACD-2750
3/8", 1/2", 3/4",1-3/8" and 1-7/8"	5	Wood Stand	ACD-2747	ACD-2748



B) SINGLE ANGLE DOVETAIL CUTTERS AS PER DIN 1833/ISO 3859

SIZE d ₁	CUTTER WIDTH b		SHANK DIA d ₂	OVERALL LENGTH	CAT NO. FOR	
	45°	60°			45°	60°
12 mm	3.5 mm	5.0 mm	10 mm	60 mm	ACD-6701	ACD-6706
16 mm	4.0 mm	6.3 mm	12 mm	60 mm	ACD-6702	ACD-6707
20 mm	5.0 mm	8.0 mm	12 mm	63 mm	ACD-6703	ACD-6708
25 mm	6.3 mm	10.0 mm	12 mm	67 mm	ACD-6704	ACD-6709
32 mm	8.0 mm	12.5 mm	16 mm	71 mm	ACD-6705	ACD-6710

Manufacturing specifications:
 ROTATION OF CUTTING: Right hand
 SHANK FORM: Flatted and parallel
 DESIGN FEATURES:
 to ISO 3859/DIN 1833 Part 1
 TOLERANCE: Size js16
 Shank dia h6
 Overall length js18

22 SINGLE ANGLE SHANK TYPE CUTTERS

- Use for chamfers and other angular milling operations
- Available with included angles of 45° and 60°
- Made from high speed steel

SIZE	CUTTER WIDTH		SHANK DIA	OVERALL LENGTH	CAT NO.	
	45°	60°			45°	60°
1/2"	1/8"	7/32"	3/8"	2-1/8"	ACA-3330	ACA-3334
3/4"	3/16"	5/16"	3/8"	2-1/8"	ACA-3331	ACA-3335
1"	5/16"	7/16"	1/2"	2-1/2"	ACA-3332	ACA-3336
1-1/2"	1/2"	5/8"	3/4"	2-3/4"	ACA-3333	ACA-3337



23 DOUBLE ANGLE SHANK TYPE CUTTERS

- Use for notches, V-grooves and other angular milling operations
- Available with included angles of 60° and 90°
- Made from high speed steel

A) 60° DOUBLE ANGLE

CUTTER DIA	FACE WIDTH	SHANK DIA	OVERALL LENGTH	CAT NO.
3/4"	3/16"	3/8"	2-3/8"	ACA-3340
1"	5/16"	1/2"	2-17/32"	ACA-3341
1-3/8"	7/16"	5/8"	3-7/32"	ACA-3342
1-1/2"	1/2"	5/8"	3-3/8"	ACA-3343
1-7/8"	5/8"	3/4"	3-25/32"	ACA-3344
2-1/4"	3/4"	7/8"	4-5/32"	ACA-3345

B) 90° DOUBLE ANGLE

CUTTER DIA	FACE WIDTH	SHANK DIA	OVERALL LENGTH	CAT NO.
3/4"	1/4"	3/8"	2-7/16"	ACA-3346
1"	3/8"	1/2"	2-29/32"	ACA-3347
1-3/8"	1/2"	5/8"	3-9/32"	ACA-3348
1-1/2"	9/16"	5/8"	3-7/16"	ACA-3349
1-7/8"	5/8"	3/4"	3-25/32"	ACA-3350
2-1/4"	3/4"	7/8"	4-5/32"	ACA-3351





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RADIUS SHANK TYPE CUTTERS

- Use concave design cutters for milling male half circles
- Use convex design cutters for milling female half circles
- Made from high speed steel

A) CONCAVE RADIUS CUTTERS

RADIUS	CUTTER	SHANK DIA	NO. OF DIA	OVERALL FLUTES	CAT NO. LENGTH
1/32"	3/4"	1/2"	6	3"	ACR-3355
1/16"	3/4"	1/2"	6	3"	ACR-3356
3/32"	3/4"	1/2"	6	3"	ACR-3357
1/8"	1"	3/4"	6	3-1/2"	ACR-3358
5/32"	1"	3/4"	6	3-1/2"	ACR-3359
3/16"	1"	3/4"	6	3-1/2"	ACR-3360
1/4"	1-1/4"	3/4"	4	4"	ACR-3361
5/16"	1-1/4"	3/4"	4	4"	ACR-3362
3/8"	1-1/2"	3/4"	4	4-3/16"	ACR-3363

B) CONVEX RADIUS CUTTERS

RADIUS	CUTTER	SHANK DIA	NO. OF DIA	OVERALL FLUTES	CAT NO. LENGTH
1/32"	3/4"	1/2"	6	3"	ACR-3365
1/16"	3/4"	1/2"	6	3"	ACR-3366
3/32"	7/8"	1/2"	6	3"	ACR-3367
1/8"	1-1/4"	3/4"	6	3-1/2"	ACR-3368
5/32"	1-5/16"	3/4"	6	3-1/2"	ACR-3369
3/16"	1-3/8"	3/4"	6	3-1/2"	ACR-3370
1/4"	1-1/2"	3/4"	4	4"	ACR-3371
5/16"	1-5/8"	3/4"	4	4"	ACR-3372
3/8"	1-3/4"	3/4"	4	4"	ACR-3373

25

T-SLOT MILLING CUTTERS

- Right hand cutters with staggered teeth and weldon shank
- Used primarily for milling T-slots in machine tool tables and beds
- Made from high speed steel

BOLT SIZE	DIAMETER OF CUTTER	WIDTH OF CUTTER	DIAMETER OF NECK	OVERALL LENGTH	DIAMETER OF SHANK	NO. OF FLUTE	CAT NO.
1/4	9/16	15/64	17/64	2-19/32	1/2	8	ATC-6201
5/16	21/32	17/64	21/64	2-11/16	1/2	8	ATC-6202
3/8	25/32	21/64	13/32	3-1/4	3/4	8	ATC-6203
1/2	31/32	25/64	17/32	3-7/16	3/4	8	ATC-6204
5/8	1-1/4	31/64	21/32	3-15/16	1	10	ATC-6205
3/4	1-15/32	5/8	25/32	4-7/16	1	10	ATC-6206
1	1-27/32	53/64	1-1/32	4-13/16	1-1/4	10	ATC-6207
1-1/4	2-7/32	1-3/32	1-9/32	5-3/8	1-1/4	12	ATC-6208



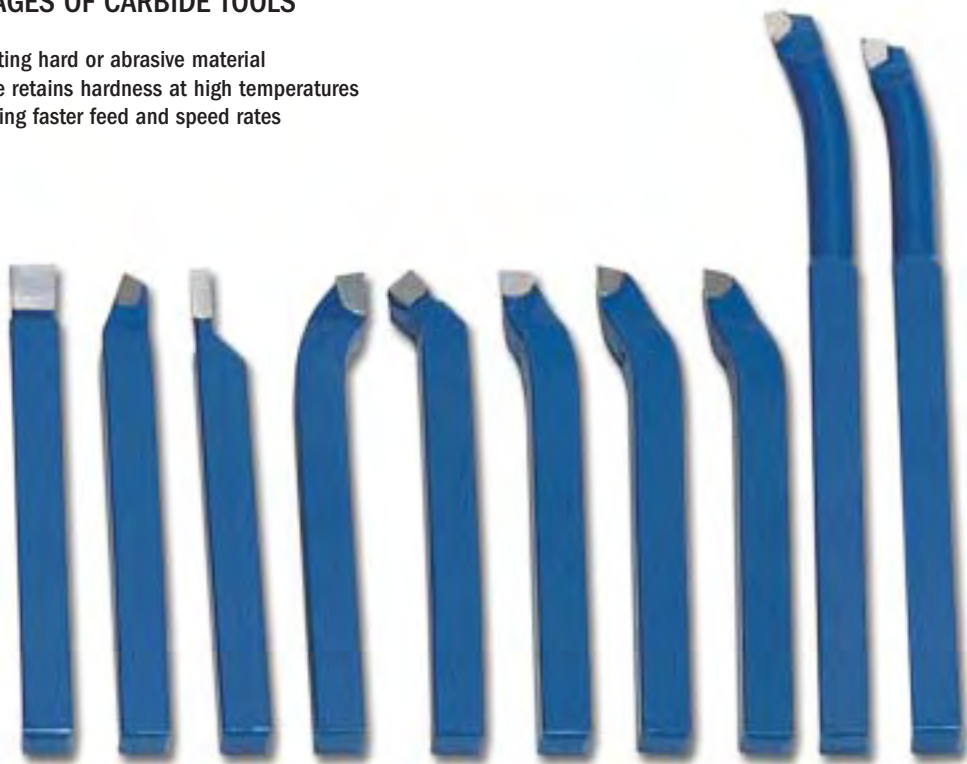
26 10 PC. CARBIDE TIP TOOL SET

- For use on steel and steel alloys
- Suitable for 1/2"/12 mm height tool posts
- Very useful tool set for various types of machine cutting operations
- Set supplied in plastic storage case

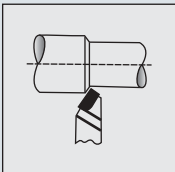
CAT NO.	SHANK DIA	
	INCH	MM
ATS-6590	5/16	8

ADVANTAGES OF CARBIDE TOOLS

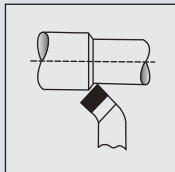
- For cutting hard or abrasive material
- Carbide retains hardness at high temperatures permitting faster feed and speed rates



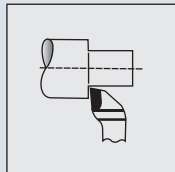
SET CONSISTS:



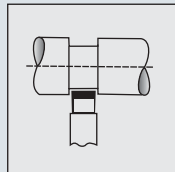
STRAIGHT TURNING TOOL
OAL: 3 1/4"/80 mm
(IS01, RH)



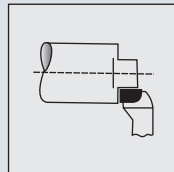
CRANKED TURNING AND
FACING TOOL
OAL: 3 1/4"/80 mm
(IS02, RH)



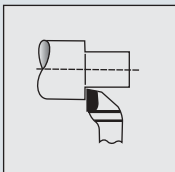
CRANKED FINISHING
TOOL
OAL: 3 1/4"/80 mm
(IS03, RH)



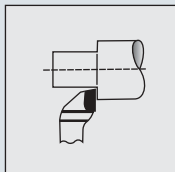
BROAD TURNING TOOL
OAL: 3 1/4"/80 mm
(IS04, ST)



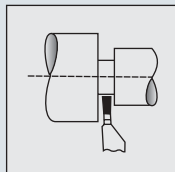
CRANKED FACING TOOL
OAL: 3 1/4"/80 mm
(IS05, RH)



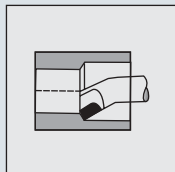
CRANKED TURNING TOOL
OAL: 3 1/4"/80 mm
(IS06, RH)



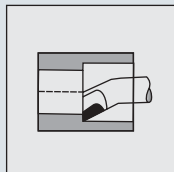
CRANKED TURNING TOOL
OAL: 3 1/4"/80 mm
(IS06, LH)



PARTING OFF TOOL
OAL: 3 1/4"/80 mm
(IS07, RH)



BORING TOOL
OAL: 5"/125 mm
(IS08, RH)



BORING AND FACING
TOOL
OAL: 5"/125 mm
(IS09, RH)

OZAR

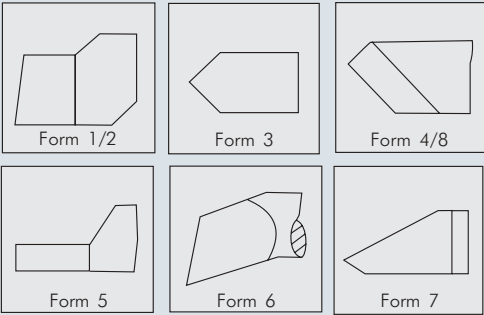
CUTTING TOOLS

27 | HIGH SPEED STEEL LATHE TOOLS

- Set consists of different M2 HSS Tools for turning and facing work on lathe
- These tools can be used for machining most materials including wood, plastic, aluminium, brass and steel
- The tools retain their hardness at high temperatures
- The major advantage of HSS tool is their ability to be easily sharpened by standard grinding wheels.

CAT NO.	SHANK SIZE	SHANK LENGTH	NO. OF PCS IN SET
ATS-6642	1/8"	2-3/8"	8
ATS-5589	1/4"	2-1/2"	8
ATS-5590	5/16"	3-1/8"	8
ATS-6643	3/8"	4"	8
ATS-5586	3 mm	60 mm	8
ATS-5597	4 mm	60 mm	8
ATS-5598	5 mm	60 mm	8
ATS-5568	6 mm	65 mm	8
ATS-5569	8 mm	80 mm	8
ATS-5599	10 mm	100 mm	8

8 SET CONSISTS OF:
 OFFSET CRANKED TURNING TOOL (FORM1, RH)
 OFFSET CRANKED TURNING TOOL (FORM 2, LH)
 POINTED NOSE TURNING TOOL (FORM 3, ST)
 STRAIGHT CORNER TURNING TOOL (FORM 4, RH)
 PARTING OFF TOOL (FORM 5, ST)
 BORING/INSIDE TURNING TOOL (FORM 6)
 EXTERNAL THREADING TOOL (FORM 7, RH)
 STRAIGHT CORNER FINISHING TOOL (FORM 8, RH)



28 TOOL BITS

M-2 HSS GROUND

- This general purpose tool gives exceptional results on mild steel, alloys and tool steel
- Ideal for finishing applications

5% COBALT GROUND

- Use for forgings, castings and any cuts of heavy nature
- Ideally suited in applications where high heat is a factor

10% COBALT GROUND

- Use for heavy cuts in hard materials
- Made of superior high speed steel

RECTANGULAR TOOL BITS

SIZE	CAT NO. FOR	
	M-2	5% COBALT
1/4" x 3/8" x 3"	ATB-2650	ATB-2669
1/4" x 3/8" x 4"	ATB-2649	ATB-2670
1/4" x 1/2" x 4"	ATB-2651	ATB-2671
1/4" x 3/4" x 5"	ATB-2652	ATB-2672
1/4" x 1" x 6"	ATB-2653	ATB-2684
3/8" x 1/2" x 4"	ATB-2654	ATB-2673
3/8" x 5/8" x 5"	ATB-2655	ATB-2674
3/8" x 3/4" x 5"	ATB-2656	ATB-2675
3/8" x 1" x 6"	ATB-2657	ATB-2676
1/2" x 3/4" x 5"	ATB-2658	ATB-2677
1/2" x 1" x 7"	ATB-2659	ATB-2678
1/2" x 1-1/2" x 7"	ATB-2660	ATB-2685
5/8" x 3/4" x 5"	ATB-2661	ATB-2679
5/8" x 1" x 6"	ATB-2662	ATB-2680
5/8" x 1-1/4" x 7"	ATB-2663	ATB-2681
3/4" x 1" x 6"	ATB-2664	ATB-2682
3/4" x 1-1/4" x 6"	ATB-2665	ATB-2683

SQUARE TOOLS BITS

SIZE	CAT NO. FOR		
	M-2	5% COBALT	10% COBALT
1/8" Square x 2-1/2"	ATB-1901	ATB-1921	ATB-2629
3/16" Square x 2-1/2"	ATB-1902	ATB-1922	ATB-2630
1/4" Square x 2-1/2"	ATB-1903	ATB-1923	ATB-2631
5/16" Square x 2-1/2"	ATB-1904	ATB-1924	ATB-2632
3/8" Square x 3"	ATB-1905	ATB-1925	ATB-2633
3/8" Square x 4"	ATB-1906	ATB-1930	ATB-2648
7/16" Square x 3-1/2"	ATB-1908	ATB-1928	ATB-2634
1/2" Square x 4"	ATB-1909	ATB-1926	ATB-2635
5/8" Square x 4-1/2"	ATB-1912	ATB-1929	ATB-2636
3/4" Square x 5"	ATB-1911	ATB-1927	ATB-2637
7/8" Square x 6"	ATB-1913	ATB-1931	ATB-2638
1" Square x 7"	ATB-1914	ATB-1932	ATB-2639
1-1/4" Square x 7"	ATB-1915	ATB-1933	

EXTRA LONG

1/4" Square x 6"	ATB-1916	ATB-2686
1/4" Square x 8"	ATB-1917	ATB-2687
5/16" Square x 6"	ATB-1918	ATB-2688
5/16" Square x 8"	ATB-1919	ATB-2689
3/8" Square x 6"	ATB-1907	ATB-1934
3/8" Square x 8"	ATB-2666	ATB-2698
1/2" Square x 6"	ATB-1910	ATB-2699
1/2" Square x 8"	ATB-2667	ATB-1935
5/8" Square x 6"	ATB-2668	ATB-2700

METRIC

6 x 6 x 63 mm	ATB-6851	ATB-6871
6 x 6 x 100 mm	ATB-6852	ATB-6872
8 x 8 x 100 mm	ATB-6853	ATB-6873
8 x 8 x 160 mm	ATB-6854	ATB-6874
10 x 10 x 100 mm	ATB-6855	ATB-6875
10 x 10 x 160 mm	ATB-6856	ATB-6876
10 x 10 x 200 mm	ATB-6857	ATB-6877
12 x 12 x 100 mm	ATB-6858	ATB-6878
12 x 12 x 160 mm	ATB-6859	ATB-6879
12 x 12 x 200 mm	ATB-6860	ATB-6880
20 x 20 x 200 mm	ATB-6861	ATB-6881



OZAR

CUTTING TOOLS

ROUND TOOL BITS

SIZE	CAT NO. FOR M-2
1/8 x 2-3/4"	ATB-3020
5/32 x 4"	ATB-3298
3/16 x 3-1/2"	ATB-3021
3/16 x 4"	ATB-3299
1/4 x 2"	ATB-3022
1/4 x 4"	ATB-3023
5/16 x 4-1/2"	ATB-3024
3/8 x 5"	ATB-3025
7/16 x 4"	ATB-3026
7/16 x 5-1/2"	ATB-3027
1/2 x 6"	ATB-3028
5/8 x 6"	ATB-3029
3/4 x 6"	ATB-3030

CUT OFF BLADES

- Fit most common tool holders
- Hardened and ground
- Trapezoidal section to fit standard tool holders

SIZE OF BLADE			CAT NO. FOR	
WIDTH	HEIGHT	LENGTH	M-2	5% COBALT
1/16	5/16	3-1/2	ATB-1360	ATB-5422
3/32	1/2	4	ATB-1361	ATB-5423
3/32	5/8	5	ATB-1362	ATB-5424
1/8	3/4	6	ATB-1363	ATB-5425
1/8	7/8	6	ATB-1364	ATB-5426
3/16	1	6-1/2	ATB-1365	ATB-5427
3/16	1-1/8	7	ATB-1366	ATB-5428
3/16	1	8	ATB-1367	ATB-5429
3/16	3/4	6	ATB-1368	ATB-5430
1/4	1-1/8	7	ATB-1371	ATB-5445

CUT OFF BLADE (P-TYPE)

MODEL NO.	WIDTH X HEIGHT X LENGTH	CAT NO. FOR M-2
PIN	.04 X 1/2 X 3-1/2	ATB-5401
P1	1/16 X 1/2 X 4-1/2	ATB-5402
P2N	5/64 X 1/2 X 4-1/2	ATB-5403
P2	3/32 X 1/2 X 4-1/2	ATB-5404
P3S	1/8 X 1/2 X 4-1/2	ATB-5405
P3N	3/32 X 11/16 X 5	ATB-5406
P3	1/8 X 11/16 X 5	ATB-5407
P4	5/32 X 11/16 X 5	ATB-5408
P5S	3/16 X 11/16 X 5	ATB-5409
P3W	1/8 X 3/4 X 5	ATB-5410
P4W	5/32 X 3/4 X 5	ATB-5411
P5W	3/16 X 3/4 X 5	ATB-5412
P5X	1/8 X 7/8 X 6	ATB-5413
P5N	5/32 X 7/8 X 6	ATB-5414
P5	3/16 X 7/8 X 6	ATB-5415
P6	1/4 X 7/8 X 6	ATB-5416
P8X	1/8 X 1-1/8 X 6-1/2	ATB-5417
P8N	5/32 X 1-1/8 X 6-1/2	ATB-5418
P8	3/16 X 1-1/8 X 6-1/2	ATB-5419
P9	1/4 X 1-1/8 X 6-1/2	ATB-5420

NOTE: TOOL BITS AND CUT OFF BLADES ARE ALSO AVAILABLE AS PER CUSTOMER'S SPECIFICATIONS.

29 CARBON TAPS AND DIES UNC/UNF

A) CARBON TAPS & DIES – UNC/UNF

THREAD SIZE	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	SET OF THREE PLUG, BOTTOM & TAPER TAPS
1/4" -20 UNC	4	1"	2-1/2"	ATC-4170
1/4" -28 UNF	4	1"	2-1/2"	ATC-4171
5/16"-18 UNC	4	1-1/8"	2-23/32"	ATC-4172
5/16"-24UNF	4	1-1/8"	2-23/32"	ATC-4173
3/8" -16 UNC	4	1-1/4"	2-15/16"	ATC-4174
3/8" -24 UNF	4	1-1/4"	2-15/16"	ATC-4175
7/16"-14 UNC	4	1-7/16"	3-5/32"	ATC-4176
7/16"-20 UNF	4	1-7/16"	3-5/32"	ATC-4177
1/2" -13 UNC	4	1-21/32"	3-3/8"	ATC-4178
1/2" -20 UNF	4	1-21/32"	3-3/8"	ATC-4179
9/16"-12 UNC	4	1-21/32"	3-19/32"	ATC-4180
9/16"-18 UNF	4	1-21/32"	3-19/32"	ATC-4181
5/8" -11 UNC	4	1-13/16"	3-13/16"	ATC-4182
5/8" -18 UNF	4	1-13/16"	3-13/16"	ATC-4183
3/4" -10 UNC	4	2"	4-1/4"	ATC-4184
3/4" -16 UNF	4	2"	4-1/4"	ATC-4185
7/8" - 9 UNC	4	2-7/32"	4-11/16"	ATC-4186
7/8" -14 UNF	4	2-7/32"	4-11/16"	ATC-4187
1" - 8 UNC	4	2-1/2"	5-1/8"	ATC-4188
1" -12 UNF	4	2-1/2"	5-1/8"	ATC-4189
1-1/8"-7 UNC	4	2-9/16"	5-7/16"	ATC-4190
1-1/8"-12UNF	4	2-9/16"	5-7/16"	ATC-4191
1-1/4"-7 UNC	4	2-9/16"	5-3/4"	ATC-4192
1-1/4"-12UNF	6	2-9/16"	5-3/4"	ATC-4193
1-3/8"-6 UNC	4	3"	6-1/16"	ATC-4194
1-3/8"-12UNF	6	3"	6-1/16"	ATC-4195
1-1/2"- 6UNC	4	3"	6-3/8"	ATC-4196
1-1/2"-12UNF	6	3"	6-3/8"	ATC-4197

SIZE	OUTER DIA OF DIES	CAT NO. FOR RIGHT HAND DIES
1/4" - 20 UNC	1"	ADH-4660
1/4" - 28 UNF	1"	ADH-4661
5/16" - 18 UNC	1"	ADH-4662
5/16" - 24 UNF	1"	ADH-4663
3/8" - 16 UNC	1"	ADH-4664
3/8" - 24 UNF	1"	ADH-4665
7/16" - 14 UNC	1-1/2"	ADH-4666
7/16" - 20 UNF	1-1/2"	ADH-4667
1/2" - 13 UNC	1-1/2"	ADH-4668
1/2" - 20 UNF	1-1/2"	ADH-4669
9/16" - 12 UNC	1-1/2"	ADH-4670
9/16" - 18 UNF	1-1/2"	ADH-4671
5/8" - 11 UNC	1-1/2"	ADH-4672
5/8" - 18 UNF	1-1/2"	ADH-4673
3/4" - 10 UNC	1-1/2"	ADH-4674
3/4" - 16 UNF	1-1/2"	ADH-4675

SIZE	OUTER DIA OF DIES	CAT NO. FOR RIGHT HAND DIES
7/8" - 9 UNC	2"	ADH-4676
7/8" - 14 UNF	2"	ADH-4677
1" - 8 UNC	2"	ADH-4678
1" - 12 UNF	2"	ADH-4679
1" - 14 UNS	2"	ADH-4680



B) CARBON TAPS AND DIES B.A./M.E.

SIZE	SET OF THREE PLUG, BOTTOM & TAPER TAPS	CAT NO. RIGHT HAND ROUND DIES
0 BA	ATC-4478	ADH-4790
1 BA	ATC-4479	ADH-4791
2 BA	ATC-4480	ADH-4792
3 BA	ATC-4481	ADH-4793
4 BA	ATC-4482	ADH-4794
5 BA	ATC-4483	ADH-4795
6 BA	ATC-4484	ADH-4796
7 BA	ATC-4485	ADH-4797
8 BA	ATC-4486	ADH-4798
9 BA	ATC-4487	ADH-4799
10 BA	ATC-4488	ADH-4800
11 BA	ATC-4498	ADH-4788
12 BA	ATC-4499	ADH-4789
5/32 x 40 M.E.	ATC-4489	ADH-4801
3/16 x 40 M.E.	ATC-4490	ADH-4802
7/32 x 40 M.E.	ATC-4491	ADH-4803
1/4 x 40 M.E.	ATC-4492	ADH-4804
9/32 x 32 M.E.	ATC-4493	ADH-4805
5/16 x 32 M.E.	ATC-4494	ADH-4806
3/8 x 32 M.E.	ATC-4495	ADH-4807
7/16 x 26 M.E.	ATC-4496	ADH-4808
1/2 x 26 M.E.	ATC-4497	ADH-4809

C) CARBON TAPS AND DIES METRIC SIZES

SIZE	SET OF THREE PLUG, BOTTOM & TAPER TAPS	CAT NO. RIGHT HAND ROUND DIES
2 mm x 0.4	ATC-4590	ADH-4860
3 mm x 0.5	ATC-4591	ADH-4861
4 mm x 0.7	ATC-4592	ADH-4862
5 mm x 0.8	ATC-4593	ADH-4863
6 mm x 1.0	ATC-4594	ADH-4864
7 mm x 1.0	ATC-4595	ADH-4865
8 mm x 1.25	ATC-4596	ADH-4866
9 mm x 1.25	ATC-4597	ADH-4867
10 mm x 1.5	ATC-4598	ADH-4868
11 mm x 1.5	ATC-4599	ADH-4869
12 mm x 1.75	ATC-4600	ADH-4870
14 mm x 2.0	ATC-4601	ADH-4871
16 mm x 2.0	ATC-4602	ADH-4872
18 mm x 2.5	ATC-4603	ADH-4873
20 mm x 2.5	ATC-4604	ADH-4874
22 mm x 2.5	ATC-4605	ADH-4875
24 mm x 3.0	ATC-4606	ADH-4876
25 mm x 3.0	ATC-4607	ADH-4877
27 mm x 3.0	ATC-4608	ADH-4878
30 mm x 3.5	ATC-4609	ADH-4879



D) CARBON TAPS AND DIES B.S.W./B.S.F.

SIZE	SET OF THREE PLUG, BOTTOM & TAPER TAPS	CAT NO. RIGHT HAND ROUND DIES
1/16" -60 B.S.W.	ATC-4430	ADH-4740
3/32" -48 B.S.W.	ATC-4431	ADH-4741
1/8" -40 B.S.W.	ATC-4432	ADH-4742
5/32" -32 B.S.W.	ATC-4433	ADH-4743
3/16" -24 B.S.W.	ATC-4434	ADH-4744
3/16" -32 B.S.F.	ATC-4435	ADH-4745
7/32" -24 B.S.W.	ATC-4436	ADH-4746
7/32" -28 B.S.F.	ATC-4437	ADH-4747
1/4" -20 B.S.W.	ATC-4438	ADH-4748
1/4" -26 B.S.F.	ATC-4439	ADH-4749
9/32" -20 B.S.W.	ATC-4440	ADH-4750
9/32" -26 B.S.F.	ATC-4441	ADH-4751
5/16" -18 B.S.W.	ATC-4442	ADH-4752
5/16" -22 B.S.F.	ATC-4443	ADH-4753
3/8" -16 B.S.W.	ATC-4444	ADH-4754
3/8" -20 B.S.F.	ATC-4445	ADH-4755
7/16" -14 B.S.W.	ATC-4446	ADH-4756
7/16" -18 B.S.F.	ATC-4447	ADH-4757
1/2" -12 B.S.W.	ATC-4448	ADH-4758
1/2" -16 B.S.F.	ATC-4449	ADH-4759
9/16" -12 B.S.W.	ATC-4450	ADH-4760
9/16" -16 B.S.F.	ATC-4451	ADH-4761
5/8" -11 B.S.W.	ATC-4452	ADH-4762
5/8" -14 B.S.F.	ATC-4453	ADH-4763
11/16"-11B.S.W.	ATC-4454	ADH-4764
11/16"-14 B.S.F.	ATC-4455	ADH-4765
3/4" -10 B.S.W.	ATC-4456	ADH-4766
3/4" -12 B.S.F.	ATC-4457	ADH-4767
13/16"-10B.S.W.	ATC-4458	ADH-4768
13/16"-12 B.S.F.	ATC-4459	ADH-4769
7/8" - 9 B.S.W.	ATC-4460	ADH-4770
7/8" -11 B.S.F.	ATC-4461	ADH-4771
15/16" - 9 B.S.W.	ATC-4462	ADH-4772
15/16" -11 B.S.F.	ATC-4463	ADH-4773
1" - 8 B.S.W.	ATC-4464	ADH-4774
1" -10 B.S.F.	ATC-4465	ADH-4775

E) CARBON HEXAGONAL DIES – UNC/UNF

SIZE		CAT NO. RIGHT HAND DIES
1/4"	- 20 UNC	ADH-1830
1/4"	- 28 UNF	ADH-1831
5/16"	- 18 UNC	ADH-1832
5/16"	- 24 UNF	ADH-1833
3/8"	- 16 UNC	ADH-1834
3/8"	- 24 UNF	ADH-1835
7/16"	- 14 UNC	ADH-1836
7/16"	- 20 UNF	ADH-1837
1/2"	- 13 UNC	ADH-1838
1/2"	- 20 UNF	ADH-1839
9/16"	- 12 UNC	ADH-1840
9/16"	- 18 UNF	ADH-1841
5/8"	- 11 UNC	ADH-1842
5/8"	- 18 UNF	ADH-1843
3/4"	- 10 UNC	ADH-1844
3/4"	- 16 UNF	ADH-1845
7/8"	- 09 UNC	ADH-1846
7/8"	- 14 UNF	ADH-1847
1"	- 08 UNC	ADH-1848
1"	- 12 UNF	ADH-1849
1"	- 14 UNS	ADH-1850
1-1/8"	- 07 UNC	ADH-1851
1-1/8"	- 12 UNF	ADH-1852
1-1/4"	- 07 UNC	ADH-1853
1-1/4"	- 12 UNF	ADH-1854
1-3/8"	- 06 UNC	ADH-1855
1-3/8"	- 12 UNF	ADH-1856
1-1/2"	- 06 UNC	ADH-1857
1-1/2"	- 12 UNF	ADH-1858



HEXAGONAL DIE SETS

DESCRIPTION	CAT NO. RIGHT HAND DIE SET
5PC Set 1/4" to 1/2" UNC	ADH-1891
5PC Set 1/4" to 1/2" UNF	ADH-1892
10PC Set 1/4" to 1/2" UNC & UNF	ADH-1893
8PC Set 1/4" to 3/4" UNC	ADH-1859
8PC Set 1/4" to 3/4" UNF	ADH-1866
16PC Set 1/4" to 3/4" UNC & UNF	ADH-1867
10PC Set 1/4" to 1" UNC	ADH-1868
10PC Set 1/4" to 1" UNF	ADH-1869
20PC Set 1/4" to 1" UNC & UNF	ADH-1890

F) CARBON HEXAGONAL PIPE
DIES NPT THREADS

SIZE	CAT NO.
1/8"-27	ADH-1895
1/4"-18	ADH-1896
3/8"-18	ADH-1897
1/2"-14	ADH-1898
3/4"-14	ADH-1899
1"-11-1/2	ADH-1900
1-1/4"-11-1/2	ADH-1901
1-1/2"-11-1/2	ADH-1902
2"-11-1/2	ADH-1903

G) CARBON TAPS – MACHINE SCREW

SIZE	NO. OF FLUTES	THREAD LENGTH	SET OF THREE PLUG, BOTTOM & TAPER TAPS
0-80	2	5/16"	ATC-4261
1-64	2	3/8"	ATC-4262
1-72	2	3/8"	ATC-4263
2-56	3	7/16"	ATC-4264
3-48	3	1/2"	ATC-4265
3-56	3	1/2"	ATC-4266
4-40	3	9/16"	ATC-4267
4-48	3	9/16"	ATC-4268
5-40	3	5/8"	ATC-4269
6-32	3	11/16"	ATC-4270
6-40	3	11/16"	ATC-4271
8-32	4	3/4"	ATC-4272
10-24	4	7/8"	ATC-4273
10-32	4	7/8"	ATC-4274



H) CARBON TAPS-TAPER PIPE NPT THREAD

- Made from premium high carbon steel
- Extremely useful for general hand applications

THREAD SIZE	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	CAT NO.
1/8" - 27 NPT	4	3/4"	2-1/8"	ATC-1951
1/4" - 18 NPT	4	1-1/16"	2-7/16"	ATC-1952
3/8" - 18 NPT	4	1-1/16"	2-9/16"	ATC-1953
1/2" - 14 NPT	4	1-3/8"	3-1/8"	ATC-1954
3/4" - 14 NPT	5	1-3/8"	3-1/4"	ATC-1955
1" - 11-1/2 NPT	5	1-3/4"	3-3/4"	ATC-1956
1-1/4" - 11-1/2 NPT	5	1-3/4"	4"	ATC-1957
1-1/2" - 11-1/2 NPT	7	1-3/4"	4-1/4"	ATC-1958
2" - 11-1/2 NPT	7	1-3/4"	4-1/2"	ATC-1959



30 CARBIDE TIPPED BORING BAR SETS

- All shanks are ground to + .000" - .005"
- Tool life is extended because each bar has far more steel behind the cutting edge for heavier, chatter-free cut
- Same bar can bore flat - bottom holes
- Suitable for general purpose use in steel and steel alloys
- Set includes short, medium and long length bars for each minimum bore diameter
- Supplied in a wooden stand

CAT NO.	SHANK DIAMETER	BORE DEPTH RANGE	NO. OF PCS IN SET
ABB-6427	1/2"	3/4" - 3"	9
ABB-6428	3/4"	1 1/8" - 4 1/2"	12



STAR



HAND TOOLS



1 SHALLOW CERAMIC MAGNETS

- Permanent, powerful magnets to hold, lift and attract metal parts
- Shallow depth permits use in confined spaces
- ASM-0656 has 10 x 24 threaded center hole for fastening with machine screw
- Large sizes have 3/8" clearance holes for fastening with rods or bolts

CAT NO.	DIA		HEIGHT		APPROX PULL	
	INCH	MM	INCH	MM	LBS	KGS
AMP-0626	1-3/8	35	5/16	8	12.0	5.5
AMP-0656	1-3/4	44.4	1/4	6.35	19.0	9.0
AMP-0657	2	50.8	3/8	9.50	22.0	10.0
AMP-0658	2-3/4	70	7/16	11.10	33.0	15.0
AMP-0659	3-1/8	80	1/2	12.70	55.0	25.0
AMP-2219	4 Pc set of the above mentioned shallow magnets					



2 MAGNETIC HOLDFASTS

- Provided with push off screw to push work away from the holdfasts as these cannot be done by hand
- Also provided with plated keepers which protect and retain magnetic field
- Can be used to hold work for welding, grinding and are ideal for making inexpensive lifting devices and jigs
- Have many applications in material handling and machine shop

CAT NO.	DIA		APPROX PULL	
	INCH	MM	LBS	KGS
AMH-0650	1-3/4	44	33	15
AMH-0651	2-1/4	54	50	25
AMH-0652	2-3/4	70	77	35



3 POT MAGNETS

- Has unlimited applications such as magnetic fasteners, displays, holding maps etc.
- Has tapped hole of 1/4" - 20 (metric thread also available on request)
- Comes with plated keepers

CAT NO.	DIA		HEIGHT		APPROX PULL	
	INCH	MM	INCH	MM	LBS	KGS
AMP-0500	11/16	17.5	5/8	15.8	5.8	2.65
AMP-0501	13/16	20.5	3/4	19.0	9.0	4.0
AMP-0502	1-1/16	27.0	1	25.4	11.0	5.0
AMP-0503	1-3/8	35.0	1-3/16	30.0	22.0	10.5
AMP-2211	4 Pc set of the above mentioned pot magnets					



4

MAGNETIC QUICK CLAMPS

- Versatile angular clamps for wide range of applications
- Bayard magnetic clamps feature strong magnet individually tested

CAT NO.	MODEL	SIZE L X H	
		INCH	MM
AMC-1187	Magnetic clamp multiangle	4 x 2-5/8	100 x 65
AMC-4968	Magnetic clamp double	6-1/4 x 3-3/8	155 x 85



Multiangle

30°, 45°, 60°, 75°, 90°



Double

5

MAGNETIC SQUARES

CAT NO.	MODEL	SIZE L X H		APPROX VERTICAL PULL	
		INCH	MM	LBS	KG
AMC-4967	Welders magnetic square open small	3-3/8 x 3-3/8	85 x 85	33	15
AMC-4970	Welders magnetic square open big	4-3/8 x 3-3/4	100 x 95	45	20
AMC-4971	Welders magnetic square enclosed big	4-3/8 x 3-3/4	100 x 95	45	20



Open Small



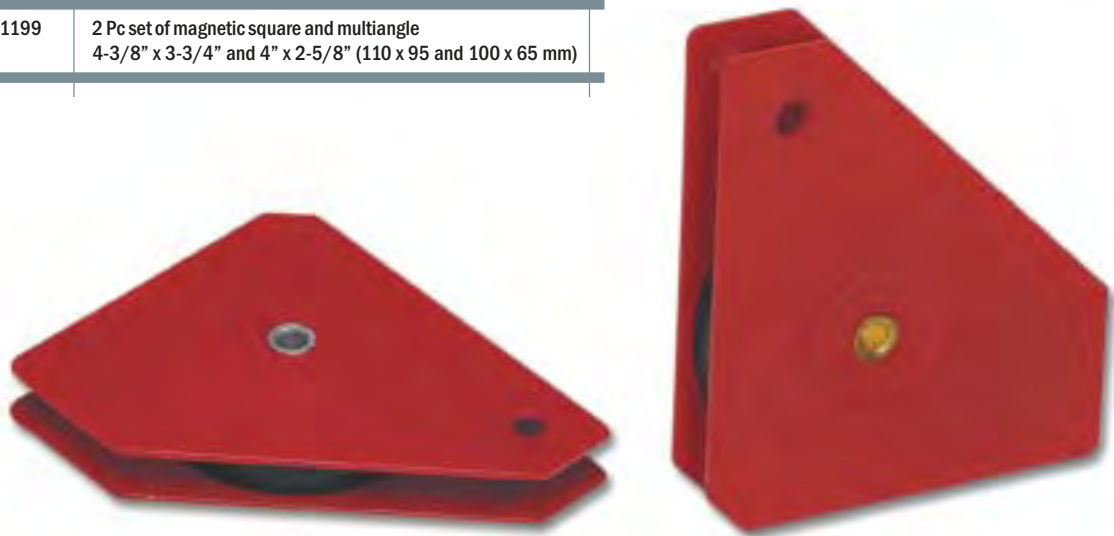
Open Big



Enclosed Big

6 | MAGNETIC CLAMP SET

CAT NO.	DESCRIPTION
AMC-1199	2 Pc set of magnetic square and multiangle 4-3/8" x 3-3/4" and 4" x 2-5/8" (110 x 95 and 100 x 65 mm)



7 | MAGNETIC GROUND CLAMPS

CAT NO.	MODEL	APPROX DIA		APPROX SVERTICAL PULL	
		INCH	MM	LBS	KG
AMC-4972	Welders magnetic ground clamp 800AMP	3-7/16	85	75	35
AMC-4973	Welders magnetic ground clamp 250AMP	3-7/16	85	75	35



|8|

MAGNETIC CLAMPS

- Hold work firmly at 45°, 90° or 135 angle.
- Large models supplied with “T” handles to “break” magnet from work.

CAT NO.	NOMINAL WIDTH	NOMINAL HEIGHT	NOMINAL THICKNESS	AVERAGE PULL
AMC-4986 (Chunky)	3-3/4"	4-3/8"	1-1/2"	100 lbs
AMC-4987 (Big Daddy)	8"	8"	1-5/8"	100 lbs



|9|

MAGNETIC LINKS

A) MAGNETIC ADJUSTABLE LINK

- Widely used for holding and welding
- Can be set at any angle by adjustment and locking of wing nut
- Compact in size for holding work in confined spaces
- Each block is 2" x 1" x 1" (50 mm x 25 mm x 25 mm)

CAT NO.	OVERALL INCH	LENGTH MM	OVERALL INCH	WIDTH MM
AML-0401	4-1/2	114	2	50



|10|

T-DOLLY SET

- Used to form edges and flanges by hammering the metal over the rounded dolly
- Can be hand-held or placed in a vice
- Made of steel, and zinc plated
- Consist of three most popular sizes

CAT NO.	HEAD SIZES
ATS-6820	4" length x ½" dia 6" length x ¾" dia 8" length x 1" dia



10 | MAGNETIC WELDING LINK

- Ideal for holding steel parts for welding, brazing etc
- Wing nut adjustment
- No clamp needed
- Two heavy magnetic blocks 2-3/8" (60 mm) long x 1-1/8" (28 mm) square linked together for easy adjustment

CAT NO.
AML-0402



11 | MAGNETIC BASE HOLDER

- A rugged holder for indicators
- Base has powerful magnetic grip which assures you of accurate work

CAT NO.	LENGTH OF BASE	WIDTH OF BASE	HEIGHT OF BASE
AMB-6451	3-1/2"	1-1/8"	1"



|12| MAGNET CLEANER

- Comes with strong magnet and comfortable hand grip
- Very useful tool for picking iron pieces from floor or distant places
- Handy powerful iron cleaner

CAT NO.	DESCRIPTION	TOTAL LENGTH		MAGNET SIZE	
		INCH	MM	INCH	MM
AMM-6658	Round	40	1000	ø3-1/8	ø80



|13| MAGNETIC SEPARATOR

- Specially designed for separating ferrous sheets or particles
- Very useful in workshops for cleaning machine beds, agriculture industry etc
- Powerful magnetic force can be demagnetised by simply pulling up the handle

CAT NO.	LENGTH X WIDTH X THICKNESS	
	INCH	MM
AMS-1644	9-1/4 x 5-1/4 x 1	235 x 135 x 25



14 | MAGNETIC HOLDER

- A versatile tool for construction and DIY industries for holding nails, hammers etc
- Powerful round magnet with pocket clip
- Magnetic pull approximate 5 kg/11 lbs

CAT NO.	DIAMETER	
	INCH	MM
AMM-6653	2-1/4	57



15 | DEMAGNETISER

- Easy to use – simply pass the piece to be demagnetised slowly over the demagnetiser
- Effectively removes residual magnetism from dies, cutters and punches, etc
- Surface area 28.5 sq inch
- Not intended for continuous use

CAT NO.	SUITABLE FOR VOLTAGE	SIZE
ADM-0919	110 Volts	7" x 4-1/2" x 3-1/4"
ADM-3559	220 Volts	178 x 115 x 82 mm



16 | MAGNETIC BASE WITH SAFETY SHIELD

- Prevents accidents
- Grips flat or round surfaces
- Fits lathes, grinders, shapers etc
- Provided with crystal clear flat shield
- Shield swivels 360° and locks in place

CAT NO. FOR COMPLETE BASE WITH SHIELD	CAT NO. FOR REPLACEMENT SHIELD	SIZE OF FLAT SHIELD	
		INCH	MM
AMS-0580	AMS-0585	6 x 8	150 x 200
AMS-0581	AMS-0586	8 x 10	200 x 250
AMS-0582	AMS-0587	10 x 12	250 x 300
AMS-0583	AMS-0588	12 x 16	300 x 400
AMS-0584	AMS-0589	16 x 20	400 x 500
AMS-0579	Magnetic base only without shield		

|17| POCKET MAGNET

- Light weight aluminium shaft
- Powerful magnet
- Comes with pocket clip
- Very handy tool

CAT NO.	TOTAL LENGH	
	INCH	MM
AMM-6655	6	150

|18| BEND-IT MAGNET

- Bendable shaft which bends to any shape
- Retrieves iron objects from hard-to-reach places such as car engines
- Powerful permanent magnetic tip

CAT NO.	REACH	
	INCH	MM
AMM-6656	21	540

|19| TELESCOPIC PICK UP MAGNET

- Light weight magnetic pick up which extends to 25-7/8" (657 mm)
- Compact size with handy pocket clip
- Powerful magnetic tip lifts heavy key rings, nails, screws, pins and more
- Very popular pick-up tool

CAT NO.
AMM-6657

|20| PRY BAR/HANDY BAR

- Flat section with nail puller and chisel ends
- Ideal for prying and nail pulling

CAT NO.	SIZE	
	INCH	MM
ABH-4994	5-1/4	135
ABH-5016	15	380
ABH-5017	8	200
ABH-5018	2 Pc set of 8" & 15"	



21 | DRIVE PIN PUNCHES

INCH TOTAL LENGTH 4"

- Single piece made from hardened and tempered tool steel
- Striking head and front taper centerless ground
- Heavy knurled finger grip
- Shiny black oxidized finish
- Available in individual sizes and also in set of 4 & 8 attractive plastic case

CAT NO.	PUNCH DIA	
	INCH	MM
APP-0010	1/16	1.6
APP-0011	3/32	2.4
APP-0012	1/8	3.2
APP-0013	5/32	4.0
APP-0014	3/16	4.8
APP-0015	7/32	5.5
APP-0016	1/4	6.4
APP-0017	5/16	8.0
APP-0018	4 Pc set of drive pin punches 1/16" (1.6 mm), 3/32" (2.4 mm), 1/8" (3.2 mm) and 5/32" (4.00 mm), in a plastic pouch	
APP-0019	4 Pc set of drive pin punches 3/16" (4.8 mm), 7/32" (5.5 mm), 1/4" (6.4 mm) and 5/16" (8.0 mm), in a plastic pouch	
APP-0020	8 Pc set of drive pin punches 1/16" (1.6 mm), 3/32" (2.4 mm), 1/8" (3.2 mm), 5/32" (4.0 mm), 3/16" (4.8 mm), 7/32" (5.5 mm), 1/4" (6.4 mm) and 5/16"	



22 | LONG DRIVE PIN PUNCHES

- Heavy knurled body with shiny black oxidized finish
- Hardened and ground tip

INCH TOTAL LENGTH 8"
 BODY LENGTH 4-1/2", PIN LENGTH 3-1/2"

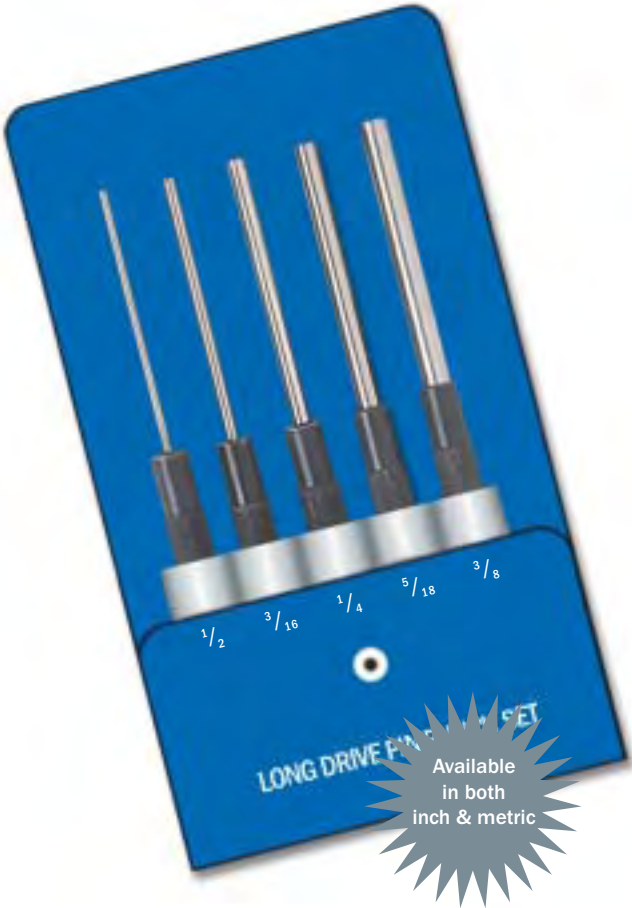
CATNO.	PUNCH DIA		BODY DIA INCH
	INCH	MM	
APL-0021	1/8	3.2	1/2
APL-1662	5/32	4.0	1/2
APL-0022	3/16	4.8	1/2
APL-0023	1/4	6.3	1/2
APL-0024	5/16	8.0	1/2
APL-0025	3/8	9.5	1/2
APL-0026	5 Pc set of 1/8", 3/16", 1/4", 5/16" and 3/8" in a pouch		

INCH TOTAL LENGTH 6"

CATNO.	PUNCH DIA		BODY DIA INCH
	INCH		
APL-6481	1/8		3/8
APL-6482	5/32		3/8
APL-6483	3/16		3/8
APP-6484	1/4		3/8
APP-6485	4 Pc set of 1/8", 5/32", 3/16" and 1/4" in a pouch		

METRIC TOTAL LENGTH 150 MM

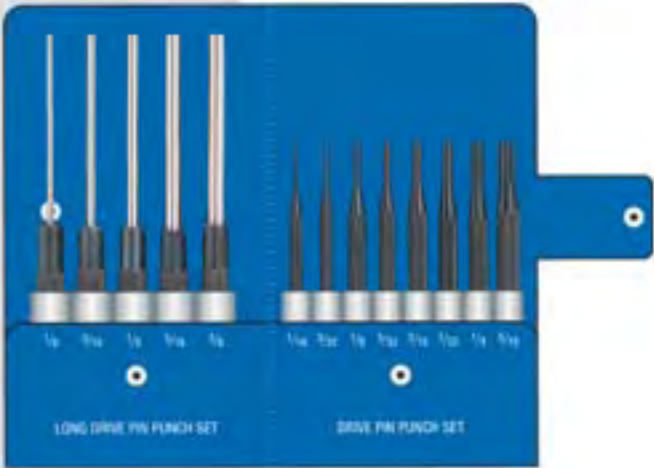
CATNO.	PUNCH DIA		BODY DIA MM
	MM		
APL-6489	2		8
APL-6491	3		8
APL-6492	4		8
APL-6493	5		10
APL-6494	6		10
APL-6495	7		12
APL-6496	8		12
APL-6499	10		12
APL-6497	6 Pc set of 3 mm, 4 mm, 5 mm, 6 mm, 7 mm and 8 mm in a pouch		
APL-6498	7 Pc set of 2 mm, 3 mm, 4 mm, 5 mm, 6 mm, 8 mm and 10 mm in a pouch		



23 13 PC COMBO PIN PUNCH SET
4" & 8" DRIVE PIN PUNCHES

- Very handy pin punch set
- Consists of eight popular sizes in 4" (100 mm) long and five popular sizes in 8" (200 mm) long drive pin punches
- Very useful set for machinists, hobbyist, automotive and construction industry
- Packed in attractive plastic pouch and outer color box

CAT NO.	PUNCH DIA
APP-0034	Set consisting of 4" (100 mm) long: 1/16" (1.6 mm), 3/32" (2.4 mm), 1/8" (3.2 mm), 5/32" (4.0 mm), 3/16" (4.8 mm), 7/32" (5.5 mm), 1/4" (6.3 mm) and 5/16" (8.0 mm) and 8" (200 mm) long : 1/8" (3.2 mm), 3/16" (4.8 mm), 1/4" (6.3 mm), 5/16" (8.0 mm) and 3/8" (9.5 mm)



24 14 PC COMBO PUNCH SET

- Very popular punch set
- Consists of five popular sizes of 8" (200 mm) long drive pin punches, eight non sparking brass punches 3-1/2" (90 mm) long and one automatic center punch 5" (125 mm) long
- Available in attractive plastic pouch

CAT NO.	PUNCH SIZES
APP-2225	Set consists of 8" (200 mm) long drive pin punches: 1/8" (3.2 mm), 3/16" (4.8 mm), 1/4" (6.3 mm), 5/16" (8.0 mm) and 3/8" (9.5 mm) and 3-1/2" (90 mm) long brass pin punches 1/16" (1.6 mm), 3/32" (2.4 mm), 1/8" (3.2 mm), 5/32" (4.0 mm), 3/16" (4.8 mm), 7/32" (5.5 mm), 1/4" (6.3 mm) and 5/16" (8.0 mm) and automatic center punch 5" (125 mm) long



25

PARALLEL PIN PUNCHES – LONG REACH

- Punch section, hardened and tempered
- Heavy knurled body with shiny black finish
- Available in individual sizes and also in a set of five in attractive plastic pouch

CAT NO.	SIZE OF TIP		BODY DIA		TOTAL LENGTH	
	INCH	MM	INCH	MM	INCH	MM
APP-1646	1/8	3.2	3/8	9.5	5	125
APP-1647	3/16	4.8	3/8	9.5	6	150
APP-1648	1/4	6.3	1/2	12.7	6-1/2	165
APP-1649	5/16	8.0	1/2	12.7	7-1/2	190
APP-1650	3/8	9.5	5/8	16.0	8-1/2	215
APP-1651	Set of above five parallel pin punches – long reach					



26

PARALLEL PIN PUNCHES – SHORT REACH

- Punch section ground, hardened and tempered
- Heavy knurled body with shiny black finish
- Available in individual sizes and also in a sets in attractive plastic pouch

CAT NO.	SIZE OF TIP		BODY DIA		TOTAL LENGTH	
	INCH	MM	INCH	MM	INCH	MM
APP-1653	1/16	1.6	3/8	9.5	4	100
APP-1654	3/32	2.4	3/8	9.5	4	100
APP-1655	1/8	3.2	3/8	9.5	4	100
APP-1656	3/16	4.8	3/8	9.5	4-1/2	115
APP-1657	1/4	6.3	1/2	12.7	5	125
APP-1658	5/16	8.0	1/2	12.7	6	150
APP-1659	3/8	9.5	5/8	16.0	7	175
APP-1660	Set of above seven parallel pin punches					
APP-1661	Set of six parallel pin punches 1/16" (1.6 mm), 3/32" (2.4 mm), 1/8" (3.2 mm), 3/16" (4.8 mm), 1/4" (6.3 mm) and 5/16" (8.0 mm) – short reach					



27 | BRASS PUNCHES NON SPARKING

- Made from brass hexagonal stock
- Ideal punches for working in no mar, no spark situation
- Punch diameters are undersized app 0.005" (0.127 mm)
- 3-1/2" (90 mm) long
- Available in individual sizes and also in a set of 8 punches in attractive plastic pouch

CAT NO.	SIZE OF TIP	
	INCH	MM
APB-2391	1/16	1.6
APB-2392	3/32	2.4
APB-2393	1/8	3.2
APB-2394	5/32	4.0
APB-2395	3/16	4.8
APB-2396	7/32	5.5
APB-2397	1/4	6.4
APB-2398	5/16	8.0
APB-2399	Set of above 8 brass punches in a plastic pouch	



28 | CENTER PUNCHES – ROUND HEAD

- Made of tool steel, hardened and tempered
- Points are machined and ground
- Heavy knurled body for better grip
- Shiny black finish
- Available in individual sizes and also in a set of five in attractive plastic pouch

CAT NO.	DIA AT TOP OF TAPER		LENGTH		BODY DIA	
	INCH	MM	INCH	MM	INCH	MM
APC-0001	1/16	1.6	3	75	1/4	6.3
APC-0002	5/64	2.0	4	100	5/16	8.0
APC-0003	3/32	2.4	4	100	5/16	8.0
APC-0004	9/64	3.6	4	100	3/8	9.5
APC-0005	5/32	4.0	4	100	3/8	9.5
APC-0006	Set of 5 center punches in a pouch consisting of 1/16" (1.6 mm), 5/64" (2.0 mm), 3/32" (2.4 mm), 9/64" (3.6 mm) and 5/32" (4.0 mm)					
APC-0009	5/16	8.0	4	100	7/16	11.0
APC-0030	1/8	3.2	4	100	3/8	9.5
APC-0046	3/16	4.8	4-1/2	115	3/8	9.5
APC-0047	1/4	6.3	5	125	1/2	12.7
APC-0048	3/8	9.5	6	150	1/2	12.7



29

CENTER PUNCHES – SQUARE HEAD

- Made of tool steel, hardened and tempered
- Points are machined and ground
- Designed to prevent rolling of punch
- Heavy knurled body for better grip
- Available individually and in sets

CAT NO.	DIA AT TOP OF TAPER		LENGTH		SQUARE SIZE	
	INCH	MM	INCH	MM	INCH	MM
APC-0336	1/16	1.6	4	100	3/8	9.5
APC-0337	5/64	2.0	4	100	3/8	9.5
APC-0338	3/32	2.4	4	100	3/8	9.5
APC-0339	9/64	3.6	4	100	3/8	9.5
APC-0340	5/32	4.0	4	100	3/8	9.5
APC-0341	Set of five above sizes of center punches in pouch					
APC-0342	1/8	3.2	4	100	3/8	9.5
APC-0547	3/16	4.8	4-1/2	115	7/16	11.0
APC-0548	1/4	6.3	5	125	9/16	14.0



30

NAIL PUNCHES – ROUND HEAD

- Hardened and tempered tool steel for long life
- Shiny black oxidized finish
- Heavy knurled body for better grip
- Very handy tool for carpenters, model makers, machinists, pattern makers, etc

CAT NO.	SIZE OF TIP		LENGTH		BODY DIA	
	INCH	MM	INCH	MM	INCH	MM
APN-0450	1/16	1.6	4	100	3/8	9.5
APN-0451	3/32	2.4	4	100	3/8	9.5
APN-0452	1/8	3.2	4	100	3/8	9.5
APN-0453	5/32	4.0	4	100	3/8	9.5
APN-0454	3/16	4.8	4	100	3/8	9.5
APN-0455	Set of 5 above mentioned nail punches in an attractive plastic pouch					
APN-1667	1/32	0.8	4	100	3/8	9.5
APN-1665	3/16	4.8	4-1/2	115	3/8	9.5
APN-1666	1/4	6.3	5	125	7/16	11.0



31 NAIL PUNCHES SQUARE HEAD

- Made of tool steel, hardened and tempered
- Designed to prevent rolling of punch
- Heavy knurled body for better grip
- Shiny black finish
- Handy tool for carpenters, model makers, machinists etc
- Available in individual sizes and also in a set of five in attractive plastic pouch

CAT NO.	SIZE OF TIP		LENGTH		SQUARE SIZE	
	INCH	MM	INCH	MM	INCH	MM
APN-1668	1/16	1.6	4	100	3/8	9.5
APN-1669	3/32	2.4	4	100	3/8	9.5
APN-1670	1/8	3.2	4	100	3/8	9.5
APN-1671	5/32	4.0	4	100	3/8	9.5
APN-1689	3/16	4.8	4	100	3/8	9.5
APN-1690	Set of above five punches in pouch					
APN-1664	5/64	2.0	4	100	3/8	9.5
APN-1672	3/16	4.8	4-1/2	115	3/8	9.5



32 GENERAL PURPOSE PUNCHES ROUND/SQUARE HEADS

- Hardened and tempered steel for long life
- 4" (100 mm) long with shiny black finish
- Heavy knurled body for better grip
- Very useful for small workshops, machinists and model engineers

TYPE OF PUNCH	CAT NO. FOR ROUND HEAD	CAT NO. FOR SQUARE
Center Punch 1/8" (3 mm)	APC-0030	APC-0342
Nail Punch 5/32" (4 mm)	APN-0453	APN-1671
Prick Punch	APP-0032	APP-1663
Set of center, nail and prick punch in attractive plastic pouch	MPS-0033	MPS-2400



33 UNIVERSAL TRANSFER PUNCH AND ALIGNER

- Precision ground punch body
- Hardened steel for long life
- Replaces different sizes regular transfer punches
- To execute, spring loaded knurled body is to be pushed down until it is in contact with the work surface. A light stroke on the punch will mark the workpiece below, right in the centre of the hole
- Will accommodate itself automatically to any hole size in the range approximately 3/16" (5 mm) to 1-3/16" (30 mm)

CAT NO.	RANGE OF OPERATION	
	INCH	MM
APT-0415	3/16 to 5/8	5 to 15
APT-0416	3/16 to 1-3/16	5 to 30

34 AUTOMATIC CENTER PUNCH

- Fully hardened and ground punch point
- Heavy knurled body for definite grip and easy handling
- No hammer is required for operating punch
- Force of Impact can be regulated by rotating top knurled cap
- Shiny black finish

CAT NO.	TYPE	LENGTH	BODY
APC-0035	Automatic center punch	5"	5/8"
APC-0624	Heavy duty	5-1/2"	3/4"

35 CENTERING PUNCH

- For quickly starting screw holes when attaching Countersink hardware such as hinges, hasps, Hangers, and drawer pulls
- Spring loaded punch
- Punch made from hardened and tempered tool steel
- Body and punch chrome plated

CAT NO.	BODY DIA		BODY LENGTH	
	INCH	MM	INCH	MM
APC-6554	3/8	9.5	2-1/2	64



36 UTILITY PUNCH AND SCRIBER

- Hexagonal body for comfortable grip
- Ideal for punching holes in sheet metal
- Can also be used as a scribe
- Hardened point
- Punch made of tool steel

CAT NO.	LENGTH		DIA OF PUNCH	
	INCH	MM	INCH	MM
APL-0037	7-1/2	190	5/32	4.0



37 CHISELS

- Made of hardened tool steel
- Cutting edge is ground to exact angle
- Available in black shiny finish

COLD CHISELS

CAT NO.	SIZE OF CUTTING EDGE		TOTAL LENGTH	
	INCH	MM	INCH	MM
ACC-1012	5/16	8.0	4	100
ACC-1020	3/8	9.5	5	125
ACC-1021	1/2	12.7	6	150
ACC-1022	5/8	16.0	6	150
ACC-1023	3/4	19.0	7	175
ACC-1024	1	25.0	8	200
ACC-1025	3/4	19.0	12	300
ACC-1026	1-1/8	28.0	12	300
ACC-1031	Set of four cold chisels 3/8" (9.5 mm), 1/2" (12.7 mm), 5/8" (16.00 mm) & 3/4" (19.00 mm) in a pouch			
ACC-1034	Set of five cold chisels 5/16" (8.0 mm), 3/8" (9.5 mm), 1/2" (12.7 mm), 5/8" (16.00 mm) & 3/4" (19.00 mm) in a pouch			



38 4 PIECE ROLLING HEAD AND LINE UP PRY BAR SET

- Pry bars are forged from high carbon alloy steel
- Rolling head pry bars feature long pointed taper at one end for lining up work and 90° angle at the other end for extra leverage
- Line-up pry bars are used for moving and adjusting metal or wood
- Rust resistant powder coated finish

CAT NO.	HEX. BODY SIZE		OVERALL LENGTH		DESCRIPTION
	INCH	MM	INCH	MM	
ABP-5029	1/2	12.7	16	405	Rolling head
ABP-5030	5/8	16.0	18	455	Rolling head
ABP-5031	1/2	12.7	14	355	Line-up
ABP-5032	3/4	19.0	20	505	Line-up
ABP-5028	4 Pc rolling head and line-up pry bar set				



Rolling head

Line-up

|39|

HOLLOW (LEATHER) PUNCHES

- Excellent tool to punch accurate hole in gasket material, light gauge sheet metal, vinyl, plastic, leather, and more
- Made from hardened & tempered carbon steel
- Ground edges facilitates easy cutting
- Inside taper for clearance
- Sets are in an attractive plastic pouch
- Also available in individual sizes



CAT NO.	RANGE	NO. OF PCS	DESCRIPTION
APH-5015	3/16", 1/4", 5/16", 3/8", 7/16" and 1/2"	6	Black oxidized knurled body
APH-5039	3/32", 1/8", 5/32", 3/16", 1/4", 5/16", 3/8", 7/16" and 1/2"	9	Black oxidized knurled body
APH-4998	2 mm, 3 mm, 4 mm, 5 mm, 6 mm, 7 mm and 8 mm	7	Blue color knurled body
APH-4999	2 mm, 3 mm, 4 mm, 5 mm, 6 mm, 7 mm, 8 mm, 9 mm and 10 mm	9	Blue color knurled body

|40|

LETTER AND NUMBER PUNCH SETS

- Made from carbon steel
- Hardened to give a solid impression
- Shiny black oxidized finish
- Numbers consist of 9 stamps 0 - 8, no. 6 is inverted to make no. 9
- Letters consist of 27 pcs A to Z
- Combination set consist of 36 stamps (27 letters and 9 numbers)



CAT NO. FOR 27 STAMPS LETTER SET	CAT NO. FOR 9 STAMPS NUMBER SET	CAT NO. FOR 36 STAMPS COMBINATION OF LETTER & NUMBER SETS	SIZE OF CHARACTER	
			INCH	MM
ALS-0200	MFS-0210	MLN-2380	1/16	1.6
ALS-0201	MFS-0211	MLN-2381	3/32	2.4
ALS-0202	MFS-0212	MLN-2382	1/8	3.2
ALS-0203	MFS-0213	MLN-2383	5/32	4.0
ALS-0204	MFS-0214	MLN-2384	3/16	4.8
ALS-0205	MFS-0350	MLN-2385	1/4	6.3
ALS-0206	MFS-0351	MLN-2386	5/16	8.0
ALS-0207	MFS-0352	MLN-2387	3/8	9.5
ALS-0208	MFS-0353	MLN-2388	1/2	12.7

41 TILE CUTTER/SNAPPER

- Carbide tipped with plated steel body
- Capacity of snapper 1/4"/6.35 mm

CAT NO.	OVERALL LENGTH	
	INCH	MM
MTC-5355	5-3/4	145

42 REPAIRMAN’S TAPER REAMER

- Removes burrs from small holes
- Enlarges and countersinks holes in soft metals
- Handy tool for mechanics, electricians, plumbers, machinists and carpenters

CAT NO.	RANGE	
	INCH	MM
ATR-0073	1/8 to 1/2	3.0 to 12.5
ATR-0074	1/8 to 5/8	3.0 to 16.0

43 ADJUSTABLE SCRAPER AND DEBURRING TOOL

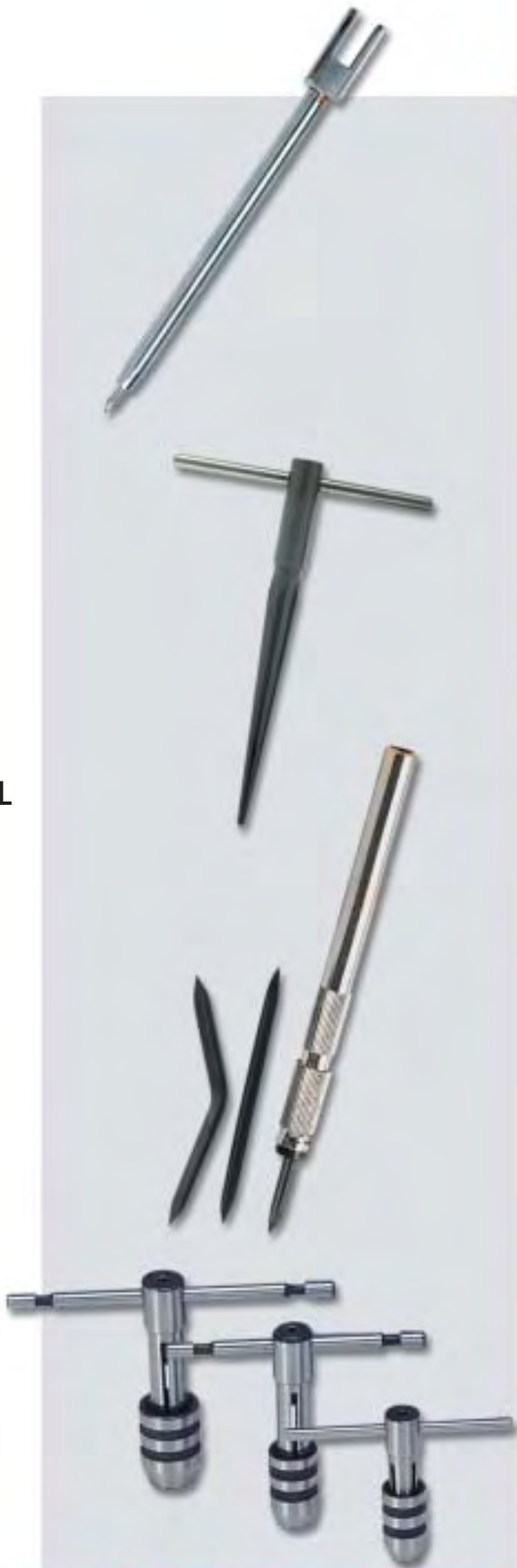
- Adjustable blade for best suited working length
- Bull-nose collet face serving as a non-marring edge guide
- Balanced, comfortable hand grip, 4-1/2" (115 mm) long
- Available with straight, 45° and 90° blades

CAT NO.	DESCRIPTION
ASB-1352	Scraper set complete with one straight, one 45° and one 90° blades
ASB-1161	Scraper with one straight blade
ASB-1162	Spare straight blade
ASB-1164	Spare 45° blade
ASB-1165	Spare 90° blade

44 T-HANDLE TAP WRENCHES

- Solid jaw tap wrenches used in hand tapping operations
- Heavy knurled cap for a better grip
- Ground finish

CAT NO.	TAP CAPACITY	
	INCH	MM
ATW-0050	1/16 - 5/32	M1 - M4
ATW-0051	5/32 - 1/4	M4 - M8
ATW-0052	1/4 - 1/2	M6 - M12
ATW-0053	3 Pc set consisting of 1 each in a box	



|45| SANDING AND POLISHING DISC

- Made of flexible molded rubber
- Complete with two steel washers and 1/4" (6.35 mm) shank adapter
- Fits many electric drill, drill press and lathe

CAT NO.	SIZE OF DISC	
	INCH	MM
ARP-1999	2-3/8	60
ARP-2000	5	127
ARP-2001	6	152



|46| SANDING BLOCK RUBBER

- Extremely popular tool in all industries and auto body shop
- Made of high quality natural rubber
- Metal spikes on each side hold standard size sand paper firmly
- Available in shiny black finish

CAT NO.	LENGTH		WIDTH	
	INCH	MM	INCH	MM
ARS-0231	5	125	2-3/4	70



|47| ECONOMY DRILL GAGES

- Hole sizes and decimal equivalents permanently etched

CAT NO.	DRILL SIZES
AGD-0959	A - Z
AGD-0960	1 - 60
AGD-0961	1/16 - 1/2 by 64ths
AGD-0958	Set of above 3
AGD-1039	1 mm - 13 mm



|48| DRILL STOP SET

- 7 Pc set for twist or brad point drills
- Assures exact hole depth
- Prevents damage from excessive drill penetration
- Set includes 1/8", 3/16", 1/4", 5/16", 3/8", 7/16" and 1/2" dia

CAT NO.
ADS-0049



49| ECONO PULLERS – REVERSIBLE TYPE

- Reversible type pullers
- Three adjustable legs for internal or external pulling of gears, bearings, etc
- Legs are made of drop forged chrome plated steel

CAT NO. FOR TWO LEGS	CAT NO. FOR THREE LEGS	SPREAD CAPACITY	
		INCH	MM
ABP-5081	ABP-5100	3	75
ABP-5082	ABP-5101	4	100
ABP-5083	ABP-5102	6	150
ABP-5084	ABP-5103	8	200
ABP-5087	ABP-5104	3 Pc set consisting of 3" (75 mm), 4"(100 mm) and 6" (150 mm) pullers	
ABP-5088	ABP-5105	4 Pc set consisting of 3" (75 mm), 4" (100 mm), 6" (150 mm) and 8" (200 mm) pullers	



50| SPARK PLUG WRENCH

- Swivel head wrenches with plastic coated T-handle
- Socket chrome plated with rubber insert for protection
- Suitable for plug size 10 and 14 mm

CAT NO.	WIDTH ACROSS FLAT	TOTAL LENGTH	
		INCH	MM
ASP-6285	16 mm-5/8 AF	10	250
ASP-6286	21 mm-13/16 AF	10	250



51| BOX WRENCH SETS

- Double ended, wrenches
- Suitable for removing nuts with protruding bolts or fixing in recessed positions
- Set includes two tommy bars

CAT NO.	DESCRIPTION
ABW-5125	Set contains six metric wrenches 8 x 9, 10 x 11, 12 x 13, 14 x 15, 16 x 17, 18 x 19 mm and also two tommy bars 100 mm and 150 mm long
ABW-5126	Set contains six wrenches 1/4" x 5/16", 5/16" x 3/8", 3/8" x 7/16", 1/2" x 9/16", 9/16" x 5/8", 11/16" x 3/4" AF and also two tommy bars 4" and 6" long



|52| HACKSAWS

- Ideal tool for all cutting applications in wood or metal
- Fitted with high quality hardened blade

CAT NO.	DESCRIPTION	BLADE SIZE
AHB-0391	Junior hacksaw chrome plated	6" x 32 TPI
AHB-0393	Mini hacksaw with plastic handle	6" x 32 TPI
AHB-0392	Tubular hacksaw with plastic handle	12" x 24 TPI
AHB-0390	Tight corner hacksaw adjustable design	12" x 24 TPI
AHB-0389	Hardened blade only	6" x 32 TPI
AHB-0394	Hardened blade only	12" x 24 TPI
AHB-5285	10 Pc set of blades	6" x 32 TPI



|53| HAMMER HOLDERS

- Made from high quality leather
- Chrome plated steel loop attached by reinforced rivets
- Extra wide belt slots

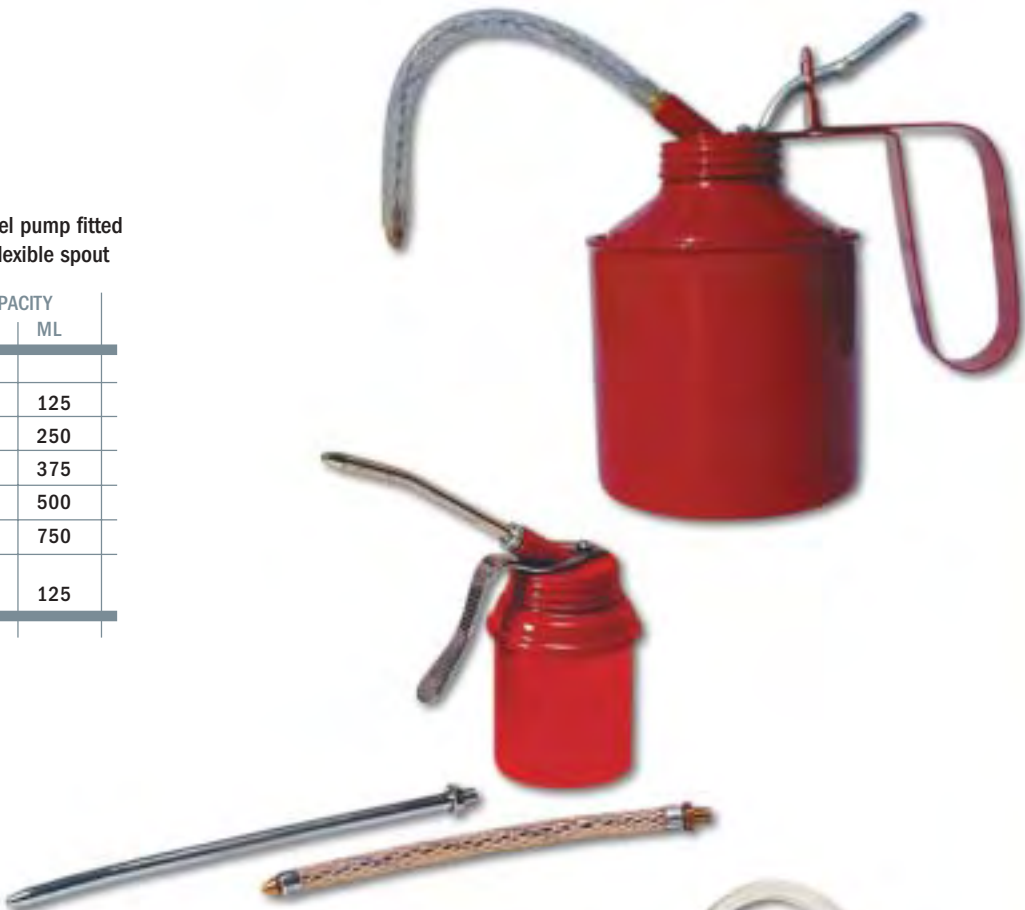
CAT NO.	TYPE
AHH-5111	Revolving
AHH-5114	Fixed



54 OIL CANS

- Metal body can with steel pump fitted with one rigid and one flexible spout

CAT NO.	CAPACITY	
	PINT	ML
WS TYPE		
AOC-5221	1/4	125
AOC-5222	1/2	250
AOC-5223	3/4	375
AOC-5224	1	500
AOC-5225	1-1/2	750
PISTOL TYPE		
AOC-5219	1/4	125



55 OIL SUCTION GUN

- Designed for filling and emptying sumps on vehicles and machinery such as gear boxes, axles etc
- Suitable for engine oil, differential oil and transmission oil
- Supplied complete with flexible delivery tube
- Attractive black finish

CAT NO.	CAPACITY	
	OZ	CC
AGS-5311	18	550



56 GREASE GUNS

- High pressure grease guns, designed for bulk or cartridge grease
- Strong robust construction
- Widely used for industrial, agricultural and automotive applications
- Fitted with rigid connector and four jaw coupler

CAT NO.	TYPE	BULK FILLED CAPACITY	
		CC	OZ
AGG-5312	Push type	125	4
AGG-5315	Lever type	500	16
AGG-5316		650	

|57| **HAMMERS**

A. BALL PEIN HAMMERS

- Alloy steel heads with tempered striking faces
- Seasoned wood handle fitted on a polished head
- Used for striking chisels and punches, for riveting and for straightening and shaping unhardened metal
- Hammer perfectly balanced

CAT NO.	WEIGHT OF HAMMER HEAD	
	LBS	GMS
AHB-0219	1/16	28
AHB-0220	1/8	56
AHB-0221	1/4	110
AHB-0222	1/2	225
AHB-0223	3/4	340
AHB-0224	1	454
AHB-0225	1-1/2	680
AHB-0226	2	910
AHB-0227	3	1360
AHB-0235	4 Pc ball pein hammer set 1/4, 1/2, 3/4 and 1 lbs	
AHB-0237	5 Pc ball pein hammer set 1/2, 3/4, 1, 1-1/2 and 2 lbs	

B. SWISS STYLE HAMMERS

- Very useful hammer for light work
- One end flat and other chisel shaped
- Fully hardened and tempered
- Hammers are perfectly balanced

CAT NO.	HEAD LENGTH	
	INCH	MM
AHB-1192	2	50
AHB-1193	2-1/4	55
AHB-1194	2-1/2	65
AHB-1195	2-3/4	70
AHB-1196	3	75

C. CHASER HAMMERS

- Hardened and tempered on striking faces
- Large flat surface used to flatten jobs
- Round end is for rivetting and making designs on metal
- Pistol type wood handles

CAT NO.	DIA OF HEAD	
	INCH	MM
AHC-0215	1	25
AHC-0216	1-1/8	28
AHC-0217	1-1/4	32

D. BRASS HAMMER 4 OZ

- Solid brass head 2” (50 mm) long
- Will not marr finished surfaces
- Hard wood handle
- Total length 9-1/2” (240 mm)

CAT NO.
AHB-0228

E. BRASS MALLET

- Solid brass head 2” (50 mm) long
- Knurled aluminium handle for better grip
- Total length of hammer 12” (305 mm)

CAT NO.
AHB-0229

F. RIVETTING HAMMER

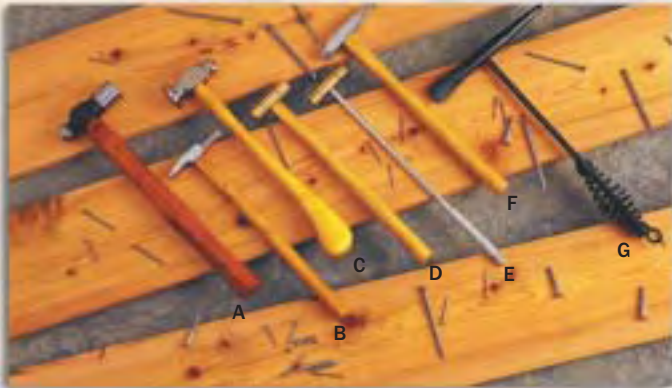
- General use hammer
- One end flat and other chisel shaped for spreading rivet heads
- Polished finish, hardened and tempered head 3” (75 mm) long

CAT NO.
AHR-0230

G. CHIPPING HAMMER

- All purpose hammer
- Comes with shock proof steel spring handle
- Hardened and tempered head 6” (150 mm) long
- Total length of hammer 10-3/4” (275 mm)

CAT NO.
AHC-0218



58 | WOOD WORKING TOOL SET
MINIATURE

- Ideal for hobbyist and all small scale woodworking and model making projects
- Consists of four different wood working tools
- Marking gauge 4" (100 mm), adjustable bevel 3-3/4" (95 mm), brass faced try square 2-7/8 (72 mm) and micro brass plane 3" (75 mm)
- Set comes in a finished wooden box

CAT NO.
ATS-2240



59 | MICRO BRASS PLANE

- Expert quality woodworking plane manufactured from selected brass having hardwood surface
- Comes with high carbon hardened and tempered blade

CAT NO.	LENGTH		STYLE
	INCH	MM	
AJS-1978	3	75	Standard
AJS-5275	3	75	Bull nose
AJS-5276	3	75	Scraper
ATS-5464	3 Pc set of above in wooden box		

[60] MARKING GAUGE

- Made from polished wood
- Consists of single hardened marking spur and plastic turn screw

CAT NO.	SIZE	
	INCH	MM
AGM-5174	4	100
AGM-5175	6	150
AGM-5176	9	230



[61] CARPENTERS TRY SQUARE

- Best quality try square with brass face polished wood stock
- Blackened steel blade's are set at true right angle with brass rivets
- Blade length measured from inner edge of stock to the end of blade

CAT NO.	BLADE SIZE	
	INCH	MM
ASC-5177	2-7/8	72
ASC-5178	6	150
ASC-5179	9	230
ASC-5180	12	300



[62] SLIDING T-BEVEL (ADJUSTABLE)

- Accurate tool for layout work
- Polished wood stock with forged brass wing nut and tips
- Blackened steel blade

CAT NO.	BLADE SIZE	
	INCH	MM
ATB-2497	3-3/4	95
ATB-2498	7-1/2	190
ATB-2499	9	230
ATB-2500	10-1/2	270



63 IRON JACK PLANE

- Professional woodworkers jack plane features wooden handle and knob
- Made of high quality cast iron steel body ground on sides and base
- High carbon steel blade is fitted with adjustable screw for setting the depth of cut

CAT NO.	LENGTH		BLADE WIDTH		BASE
	INCH	MM	INCH	MM	
AJP-5360	9-3/4	245	2	50	Smooth
AJP-5361	14	350	2	50	Smooth
AJP-5363	9-3/4 (245 mm) Jack plane in wooden box				Smooth
AJP-5362	Jack plane blade				
AJP-5365	9-3/4	245	2	50	Corrugated
AJP-5366	14	350	2	50	Corrugated



64 SPOKE SHAVES

- A handy shaping tool for curved surfaces
- Body is cast from malleable Iron and cutter made from high carbon steel

CAT NO.	DESCRIPTION	CUTTER WIDTH	
		INCH	MM
MJP-6054	9-1/2" / 240 mm flat, adjustable	2-1/8	54
MJP-6055	9-1/2" / 240 mm curved, adjustable	2-1/8	54
MJP-6056	8"/200 mm flat, non-adjustable	1-3/4	44



Adjustable



Non Adjustable

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[65] TRAMMEL SET

- Used draw circles and measure sizable distances with the accuracy of a divider
- Also for layout, marking templates and drawing large circles
- Needle point legs
- One trammel can also hold a pencil

CAT NO.
ATS-6192



[66] HAMMER WITH SIX HEADS

- Comes with six interchangeable points for different applications
- Aluminium handle
- Total length 7-1/4" (185 mm)
- All purpose hammer for hobbyist

CAT NO.
AHH-5564



[67] WOOD WORKING VISES

- Made from high grade casting
- Chrome plated spindles
- Perfect vise for wood workers

CAT NO.	JAW WIDTH		JAW DEPTH		JAW OPENING		BODY LENGTH		WEIGHT	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	LBS	KG
AVW-5381	6	150	2-3/16	55	5	125	8-5/16	210	5.00	2.25
AVW-5382	7	175	2-9/16	65	6	150	10-3/16	260	7.30	3.30
AVW-5383	9	225	3	75	8	200	13-3/8	340	13.60	6.20



68 | SLIDING GAUGE BRASS
(BRASS VERNIER CALIPER)

- Stepped jaw construction for inside and outside measurement
- Graduated in metric and inch sizes
- Made of brass

CAT NO.	MEASURING RANGE	
	INCH	MM
AJT-1254	0 - 3	0 - 80
AJT-1255	0 - 4	0 - 100

69 | VERNIER CALIPERS

- Handy tool for Inside, outside and depth measurement
- Columbus type features thumb controlled movement with locking device
- Precision type features a thumb controlled ball movement and is nickel plated
- Graduated in both mm and inch size

CAT NO.	RANGE DESCRIPTION		PACKAGING	
	INCH	MM		
ACV-0234	0-5	0-125	Columbus type	Pouch
ACV-6540	0-5	0-125	Columbus type	Blister
ACV-0235	0-6	0-150	Columbus type	Pouch
ACV-0236	0-6	0-150	Precision type	Pouch

70 | BRASS TYRE PROFILE DEPTH GAUGE

- Made of brass
- Surfaces finely ground
- With dove tail guiding and vernier reading

CAT NO.	SIZE
AGT-5565	0-30mm
AGT-5566	0-50mm



[71] SCRATCH AWL

- Hard pointed awl used for variety of scribing, piercing and punching jobs
- Alloy steel blade is securely fastened to both the plated steel ferrule and cap
- Hardwood handle for a comfortable grip

CAT NO.	OVERALL LENGTH	
	INCH	MM
ASA-6574	6-1/2	165

[72] STRIKING KNIFE

- These knives are used to mark out various cutting lines on wood
- The knife scores the wood preventing tear out
- Blade is made of hardened steel
- Blade is perfectly ground and has a 55 included angle on the tip
- Flat sided wooden handle presents rolling
- Suitable for both right and left hand use

CAT NO.	OVERALL LENGTH	
	INCH	MM
AKM-6190	7	175

[73] ECONOMY MICROMETERS

- Handy economical tool for measuring purposes
- Available in metric and inch size
- Moderately priced

CAT NO.	RANGE
AEM-1190	0-1"
AEM-1191	0-25 mm



74 SPRING DIVIDER AND CALIPER FLAT LEG

- All dividers and calipers are made of high grade polished steel
- Legs are well finished and balanced
- Spring is hardened and tempered
- Solid nut and washer permits fast and positive adjustment
- Heat treated points to give accurate measurement
- Size 8"/200 mm also available in blister

DIVIDER AND CALIPER SETS FLAT LEG

- 3 Pc set consists of one each of divider, inside caliper and outside caliper

SPECIFICATIONS FOR DIVIDER AND CALIPER SETS

CAT NO.	SIZE	
	INCH	MM
ADC-5132	6	150
ADC-5133	8	200
ADC-5134	10	250
ADC-5135	12	300



SPECIFICATIONS FOR SPRING DIVIDERS AND CALIPERS - FLAT LEG

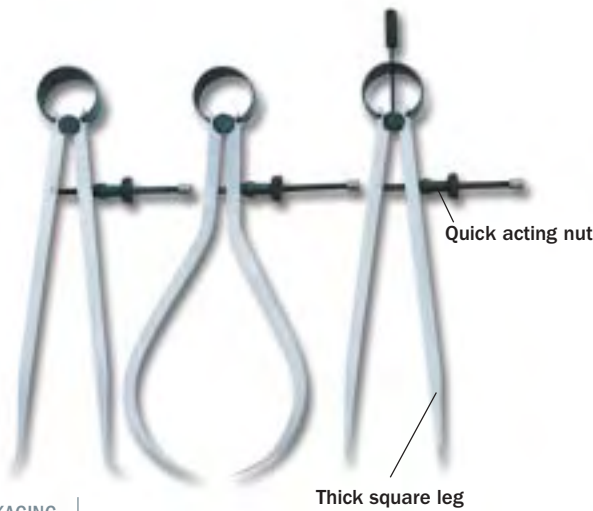
CAT NO. DIVIDERS	CAT NO. INSIDE	CAT NO. OUTSIDE	NOMINAL SIZE	
			INCH	MM
ADS-0091	MCS-0101	MCS-0111	4	100
ADS-0092	MCS-0102	MCS-0112	6	150
ADS-0093	MCS-0103	MCS-0113	8	200
ADS-0098	MCS-0108	MCS-0118	10	250
ADS-0094	MCS-0104	MCS-0114	12	300

75 SPRING DIVIDER AND CALIPER SQUARE LEG

- Professional grade dividers and calipers with rugged construction
- Legs made from heavy square stock machined to smooth taper
- Hardened and ground measuring points
- Hardened and tempered spring
- Quick spring nut for making quick positive adjustments
- ACP-6541 in blister is the most popular seller

SPECIFICATIONS FOR SPRING DIVIDERS AND CALIPERS - SQUARE LEG

CAT NO. DIVIDERS	CAT NO. INSIDE	CAT NO. OUTSIDE	NOMINAL SIZE		PACKAGING
			INCH	MM	
ADP-1413	ACP-2432	ACP-2443	6	150	Hang card
ACP-6541	ACP-6540	ACP-6542	6	150	Blister



[76] COMBINED INSIDE AND OUTSIDE CALIPERS

- Made of high grade polished steel
- Legs are well finished and balanced
- Two calipers in one
- Extremely popular product

CAT NO.	CAPACITY	
	INCH	MM
ACC-6890	3	75
ACC-6891	4	100
ACC-6892	6	150
ACC-6893	8	200
ACC-6894	10	250
ACC-6895	12	300

[77] STAINLESS STEEL RULES

- Rules are manufactured from stainless steel and permanently etched
- Supplied in hanging pouch
- Width of rules 1"/25 mm

CAT NO.	LENGTH
ASR-0954	12"/300 mm
ASR-2543	300 mm

[78] STEEL SQUARES

- Made of finest quality ground steel with heavy thick stock
- Blade is hardened and ground for straightness and parallelism
- Squares are accurate within 0.001"/.025 mm both inside and outside
- Effective blade length measured from inner edge of the beam to end of the blade
- Set supplied in storage case

CAT NO.	EFFECTIVE BLADE LENGTH	
	INCH	MM
ASS-0156	2	50
ASS-0157	3	75
ASS-0158	4	100
ASS-0159	6	150
ASS-5529	4 Pc square set consisting of lengths 2" (50 mm), 3" (75 mm), 4" (100 mm) and 6" (150 mm) in storage case	



79 | MINI CLAMPS

- Ideal clamp for many applications
- Rubber tips for scratch proof clamping

CAT NO.	LENGTH	
	INCH	MM
ACM-1220	3-1/4	82
ACM-1219	4-1/2	115



80 | PROTRACTORS

- Made from polished stainless steel
- Double graduation from 0 – 180° in opposite direction
- Rectangular head protractor provides four convenient working edges
- Used to draw radial lines, setting bevels and transferring angles
- Protractors are supplied in a retail blister

CAT NO.	DESCRIPTION	DIMENSION	
		INCH	MM
APM-6543	Rectangular head	3-1/2 x 2	90 x 50



81 | WOOD WORKING MARKING AND MEASURING SET

- Especially designed set for wood workers
- Meets most of marking and measuring requirements of wood workers
- 7 Pc set consists of 10" spring divider with pencil holder, pencil, scriber-two point, graduated steel square 9", rectangular head protractor, bevel square 10-1/2" and steel rule 12"

CAT NO.
ATS-5467



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H A N D T O O L S



|82| TECHNICAL MEASURING SETS

- 6 pc measuring set is suplied in retail ready color picture box
- 3 pc measuring set is blister packed

CAT NO.	NO. OF PCS	DESCRIPTION
AMS-1537	6	6"/150 mm Divider, 6"/150 mm Inside caliper, 6"/150 mm Outside caliper, 6"/150 mm Pocket rule, 4"/100 mm Brass vernier caliper and 6"/150 mm Angular depth gage
ATS-6591	3	5"/125 mm Metal vernier caliper 6"/150 mm Pocket rule and 7"/175 mm Heavy duty scriber

|83| BENCH BLOCK

- Very handy for holding work when driving pins, drilling etc
- V-groove across the face accommodates round and odd shaped stock
- Smooth finish on the face preserves the work being held
- Hardened and ground knurled body for a firm grip
- Recessed base for light weight



CAT NO.	BLOCK DIAMETER		BLOCK HEIGHT		HOLE DIAMETER	
	INCH	MM	INCH	MM	INCH	MM
ABB-0370	3	75	1-1/2	38	1/8 to 5/8	3 to 15

|84| C CLAMPS CASTED

- Made from malleable casting
- Heavy duty swivel head screw

CAT NO.	CAPACITY	
	INCH	MM
ACC-1471	2	50
ACC-1472	3	75
ACC-1473	4	100
ACC-1474	6	150
ACC-1475	8	200
ACC-1476	10	250
ACC-1477	12	300



85 | HAND BLOWER

- Made of high quality rubber for long life
- Brass nozzle provides a strong, clean, air stream
- For small air cleaning jobs, suck molten solder, drive out chips, sawdust from T slots, gears, etc

CAT NO.	APPROX LENGTH		BODY DIA	
	INCH	MM	INCH	MM
AJT-1514	4-1/2	115	2-1/8	54



86 | TAPER SPINDLES/WORK ARBORS

- Taper spindles made of steel with threads either right or left handed. Held to shaft by 2 set screws
- Work arbors straight can be used with drill chucks

TAPER SPINDLES

CAT NO. FOR LEFT	CAT NO. FOR RIGHT	FOR SHAFT DIA
ATS-1540	ATS-1541	1/4" (6.35 mm)
ATS-1542	ATS-1543	5/16" (7.90 mm)
ATS-1544	ATS-1545	3/8" (9.50 mm)
ATS-1546	ATS-1547	1/2" (12.70 mm)
ATS-1548	ATS-1549	5/8" (15.80 mm)



WORK ARBORS

CAT NO.	DESCRIPTION
AWA-0306	1/2" (12.7 mm) straight without nut and washer
AWA-0307	1/2" (12.7 mm) straight with nut and washer
AWA-0308	5/8" (15.80 mm) straight without nut and washer
AWA-0309	5/8" (15.80 mm) straight with nut and washer
AWA-0310	1/4" (6.35 mm) shank, 1/2" (12.7 mm) arbor with nut and washer
AWA-0311	1/4" (6.35 mm) shank, 1/2" x 20 stem to fit 1/2" (12.7 mm) drill chuck
AWA-0312	1/4" (6.35 mm) small hex arbor

OZAR

H A N D T O O L S

|87| TRIANGULAR SCRAPERS

- Useful tool for scraping, trimming and deburring metals, tubing and other materials
- Hardened and tempered triple edge blade is secured in wood handle with steel ferrule
- Available with solid cutting edges as well as hollow ground cutting edges

CAT NO.	DESCRIPTION	TOTAL LENGTH	
		INCH	MM
ASM-1279	Hollow ground cutting edges	7-1/4	185
ASM-1280	Solid cutting edges	7-3/4	200



|88| MACHINIST SCRAPERS

- Designed for removal of high spots on machined surfaces
- Made of hardened and tempered steel
- Nicely finished wooden handle
- Available in triangular, flat and half round shapes
- Available in individual sizes and in sets

CAT NO.	SIZE		STYLE
	INCH	MM	
ASM-1281	4	100	Triangular
ASM-1282	4	100	Flat
ASM-1283	4	100	Half round
ASM-1284	6	150	Triangular
ASM-1285	6	150	Flat
ASM-1286	6	150	Half round
ASM-1287	8	200	Triangular
ASM-1288	8	200	Flat
ASM-1289	8	200	Half round
ASM-1290	10	250	Triangular
ASM-1291	10	250	Flat
ASM-1292	10	250	Half round
ASM-1271	Set of three 4" (100 mm) scrapers triangular, flat and half round		
ASM-1272	Set of three 6" (150 mm) scrapers triangular, flat and half round		
ASM-1273	Set of three 8" (200 mm) scrapers triangular, flat and half round		
ASM-1274	Set of three 10" (250 mm) scrapers triangular, flat and half round		



89 FILE HANDLES

- Made from high quality wood
- Wood properly dried and seasoned
- Handles come with steel ferrules
- Available in four sizes

CAT NO.	HANDLE LENGTH		HANDLE DIA AT BOTTOM	
	INCH	MM	INCH	MM
AFH-0360	4	100	7/8	22
AFH-0361	4-1/2	115	1	25
AFH-0362	4-3/4	120	1-3/16	30
AFH-0364	5-1/8	130	1-1/8	28



90 BIT EXTENDER

- Made from tool steel
- Use for forstner bits and wood boring bits
- Extended shank is 3/8" (9.5 mm) diameter
- Provided with two screws for proper holding of bits
- Total length 6-7/8" (175 mm)

CAT NO.	FOR BIT SIZE
ABE-6191	3/8"
ABE-6193	10 mm



91 MAGNETIC CARBIDE POINT SCRIBER

- Carbide tip on one end and alinco magnet on the other end
- Used for scribing lines on steel and other materials
- Magnet end is handy for retrieving small steel parts
- Supplied with pocket clip
- Overall length : 5-3/4" (145 mm)

CAT NO.	PACKAGING
AMS-5358	Hang card
AMS-5377	Blister

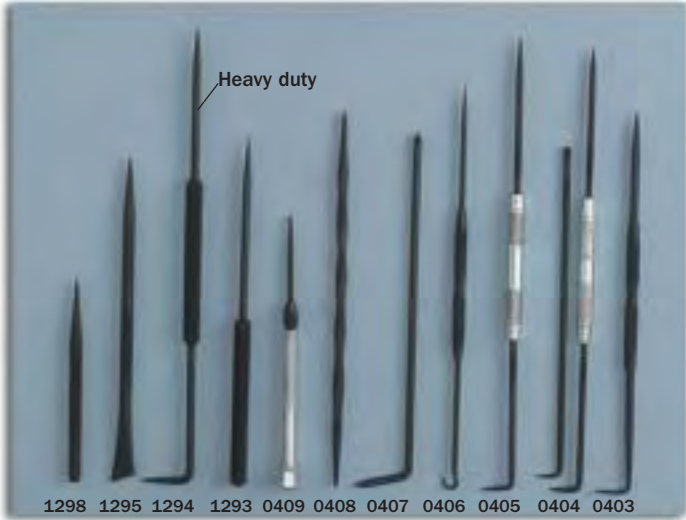


92

CARBIDE AND DIAMOND TIP SCRIBERS – POCKETTYPE

- For use on hard surfaces including carbide
- Carbide fixed points on hexagonal chrome plated steel body
- 6”/150 mm long, provided with clip
- Carbide scriber is packed in a pouch

CAT NO.	DESCRIPTION
AMS-1297	Carbide scriber in steel body
AMS-3309	Diamond scriber in steel body



93

MACHINIST’S SCRIBERS

- Ideal marking tool

CAT NO.	DESCRIPTION	LENGTH	
		INCH	MM
AMS-0403	Double end scriber with knurled body	7-1/2	190
AMS-0404	Three point scriber with replaceable points, knurled aluminium body	8-1/2 & 12	215 & 300
AMS-0405	Two point scriber with replaceable points, knurled aluminium body	8-1/2	215
AMS-0406	Hook scriber	8-1/2	215
AMS-0407	Right angle scriber	7	175
AMS-0408	Double end Scriber with twisted body for firm grip	7	175
AMS-0409	Single point scriber, aluminium body, replaceable point	5	125
AMS-1293	Single point heavy duty scriber with knurled body ø8 mm	7	175
AMS-1294	Double point heavy duty scriber with knurled body ø8 mm	10	250
AMS-1295	Chisel type scriber with one end sharp point and other knife edge	6-1/2	165
AMS-1298	Single point scriber	4	100
AMS-1300	3 Pc scriber set consisting of AMS-1293, 1294 and 1295		

94 | HAND DRILL AND PIN VISE WITH SWIVEL HEAD
MASTER PIN VISE

- Has two double-end collets with swivel head
- Screw chuck tightly holds miniature tools
- Bright nickel plated finish

CAT NO.	CAPACITY		OVERALL LENGTH	
	INCH	MM	INCH	MM
APV-0145	0 to 1/8	0 to 3.2	3-5/8	95

95 | DOUBLE END PIN VISE (4 JAW)

- Has two four jaw double end collets
- Very popular with jewellers, watch makers, model makers etc

CAT NO.	CAPACITY		OVERALL LENGTH	
	INCH	MM	INCH	MM
APV-0153	0 to 1/8	0 to 3.2	4	100

96 | MICRO CHUCK

- For use in drill press or hand-held tools
- Suitable for drills 0.3 – 1.00 mm (60 to 80 wire gage drills)
- Grips drills firmly and accurately
- Can be held in any 1/8" or 3/16" collet or larger adjustable drill chuck

CAT NO.
ACM-0466

97 | PIN VISE – SLIDING AND MINI

- Sliding pin vise features a sliding knurled ring to close jaws making it easy to operate
- Mini pin vise features a heavy knurled brass body

CAT NO.	DESCRIPTION	CAPACITY		OVERALL LENGTH	
		INCH	MM	INCH	MM
APV-0146	Sliding pin vise	0 to 3/64	0 to 1.3	4-1/8	105
APV-0147	Mini pin vise	0 to 1/32	0 to .7	3-1/8	80

Master Pin Vise

Double End Pin Vise

|98| ADJUSTABLE PIN VISE

- 3 jaw steel screw chuck
- Unbreakable plastic handle
- Ideal tool for holding small drills, burs, wires, reamers and other miniature tools
- Extensively used in electronic assembly, tool making and many other applications

CAT NO.	CAPACITY		OVERALL LENGTH	
	INCH	MM	INCH	MM
APV-0139	0 to 1/4	0 to 6.35	6-3/16	155
APV-0150	1/8 to 1/2	3.2 to 12.7	6-1/2	165

|99| PIN CHUCK SET

- Designed for holding small drills
- Three inter changeable collets available
- Black shiny finish

CAT NO.	DESCRIPTION
APC-0155	One pin chuck with all three collets. 0 to 1/32" (0 to 0.8 mm), 1/32" to 1/16" (0.8 mm to 1.60 mm) and 1/16" to 3/32" (1.60 mm to 2.40 mm)

|100| ADAPTER PIN CHUCK SET

- For use with miniature drills
- Lock this adapter in chuck to convert it for precise drilling
- Also adapts 3/32" (2.40 mm) collets on rotary tools and flexible shafts to a more useful 0 to 3/32" (0 to 2.40 mm)
- Comes with two sets of jaws (capacity 0 to 1/16" (0 to 1.60 mm) and 1/16" to 3/32" (1.60 mm to 2.40 mm)
- Shank diameter 3/32" (2.40 mm), shank length 1-3/8" (34.90 mm)
- Overall length 2-5/8" (66.50 mm)

CAT NO.
APC-0154



101 SINGLE – ENDED PIN VISE

- Ideal vise for holding small tools, rods, wires, taps etc
- Collets grips firmly when screw chuck is tightened
- Heavy knurled body
- Black shiny finish
- Available in individual sizes and also in a set of four in attractive plastic pouch

CAT NO.	CAPACITY		OVERALL LENGTH	
	INCH	MM	INCH	MM
APV-0140	0 to .04	0 to 1.0	3-3/8	85
APV-0141	0.031 to .06	0.8 to 1.5	3-5/8	92
APV-0142	0.052 to .125	1.3 to 3.1	3-3/4	95
APV-0143	0.120 to .192	3.0 to 4.85	4-1/8	105
APV-0144	Set of four in an attractive plastic pouch			

102 SPIRAL DRILLS

- Pushing handle rotates drill
- Fast, easy, accurate and portable
- Nickel plated body
- Mini spiral drill with spring is also available

CAT NO.	DESCRIPTION	CAPACITY		TOTAL LENGTH	
		INCH	MM	INCH	MM
AJT-2229	Mini	0 to 1/32	0 to 0.8	3-7/8	98
AJT-2230	Standard	0 to 1/16	0 to 1.6	7-3/4	197

103 PICK-UP-TOOL (DIAMOND HOLDERS)

- Ideal tool for picking & holding small items
- Chrome plated knurled body
- Very handy tool for machinists, jewellers, assemblers and mechanics

CAT NO.	DESCRIPTION	LENGTH	
		INCH	MM
APT-1242	Mini pick-up-tool – 3 prong	2-1/4	55
APT-1246	Mini pick-up-tool – 4 prong	2-1/4	55
APT-1243	Std. pick-up-tool – 3 prong	4-5/8	115



|104| MICRO HAND VISE

- Unique hand vise allows wire or small diameter tubing to pass straight through the hollow handle and tightening screw
- Jaws hold securely while you form, fit, finish, clean, etc.
- Made of blackened steel
- Holds wire up to .050" diameter and other objects up to 3/32" thick
- Jaws are 3/8" wide, overall length 5"

CAT NO.
AVM-6825

|105| MINI VISE

- Ideal for holding small, odd-shaped parts while drilling, filling, painting, carving, sanding, grinding, etc.
- AVM-6823 features steel guide pins and knurled tightening screw.
- In AVM-6824 smooth faced aluminium jaws are 1- 3/4" wide x 1/2" deep and open to 3/4" Non-mar plastic pins in different locations to conform to the shape of your part.

CAT NO.
AVM-6823
AVM-6824

|106| DRAWTONGS

- For pulling wire through draw plate
- Jaws are serrated
- Suitable for heavy work

CAT NO.	LENGTH	
	INCH	MM
AJT-1505	8	200
AJT-1506	10	250



AVM-6823



AVM-6824



107 BABY BENCH VISES

- Versatile tool for filing, flattening or laying out work
- Combination anvil and bench pin features a finished anvil top and replaceable bench pin

CAT NO.	DESCRIPTION	JAW WIDTH / ANVIL SIZE	
		MM	INCH
AVB-1390	Baby bench vise fixed	2	50
AVB-1391	Baby bench vise with swivel base	2	50
AVB-1389	Fixed table vise	1-1/2	40
AVB-2181	Set of fixed and swivel baby bench vise		
AJT-1252	Combination anvil and bench pin	3-1/4 x 2-3/4	80 x 70
AJT-1503	Replacement bench pin	7 x 1-3/4	175 x 45
AJT-1267	Combination anvil only		



108 BENCH PIN AND CLAMP V-SLOT

- Handy in-expensive working pin
- Will fit most of the benches
- V-slot in pin convenient for positioning work

CAT NO.	DESCRIPTION
AJT-1238	For bench pin and clamp
AJT-1214	For clamp only
AJT-1239	For bench pin only



|109|

BENCH PINS AND HOLDER

- Bench pin with metal holder is used for benches that do not have a slot for bench pin
- Metal holder can be screwed to bench
- Bench pins are made of hard wood and are used as supports for filing, sawing, setting etc

CAT NO.	DESCRIPTION	SIZE	
		MM	INCH
AJT-1518	Bench pin with metal holder	5-3/4 x 4-1/4	145 x 108
AJT-1519	Metal holder only	4-1/4 x 1-1/2	108 x 38
AJT-1500	Bench pin only	5-1/4 x 2-1/4	135 x 55
AJT-1501	Bench pin	6-1/4 x 2-1/2	160 x 63
AJT-1502	Bench pin	7 x 3	175 x 75
AJT-1503	Bench pin	7 x 1-3/4	175 x 45



|110|

THIRD HAND

- Very handy holding device with horse shoe base
- Heavy, non-tipping base equipped with ball joint attachments which can position work at any angle
- Various types of clamps will fit on these bases
- Handy for positioning pieces to be joined by solder or adhesive, freeing both hands
- Very useful for jewellers, assemblers, model makers and hobbyists
- Available with or without magnifier

CAT NO.	DESCRIPTION
AJT-1378	Third hand alone
AJT-1379	Third hand with 2-1/ 2" (63 mm) magnifier



|111|

MINIATURE SCREW DRIVERS AND WRENCHES

- Screwdrivers feature nickel plated brass body with swivel round head and hardened blade. 5pc screwdrivers set consist of blade size .072", .062", .056", .048", .036" (1.8,1.5,1.4,1.2 and 0.9 mm)
- Miniature Wrenches feature aluminium hex handle with black oxidized head. 6pc set consists of size 3/32", 1/8", 5/32", 3/16", 1/4", 5/16"

CAT NO.	DESCRIPTION
AJS-0240	5 Pc screwdrivers set in a pouch
AWS-5310	6 Pc miniature wrench set in a pouch



112 | ROUND MAGNIFIERS

- Plastic handle light weight magnifiers ideal for engineers, professionals and hobbyists
- Ideal reading glass assuring edge to edge clarity
- Available in different sizes and magnification

CAT NO.	LENS DIA		FOCAL LENGTH		POWER
	INCH	MM	INCH	MM	
AEG-2465	1-1/2	40	4	10	3.5 X
AEG-2466	2	50	6	15	2.5 X
AEG-2470	2-1/2	60	6	15	2.5 X
AEG-2467	3	75	8	20	2.25 X
AEG-2468	4	100	8	20	2.25 X
AEG-2550	4 Pc set consisting of 1-1/2" (40 mm), 2" (50 mm), 2-1/2" (60 mm) and 3" (75 mm) lens diameter magnifier				



113 | EYE LOUPES

- High quality precise eye loupes
- Lens made of clear ground and polished optical glass
- Body made from black polished plastic
- Hands-free magnification
- Must for toolmakers, instrument assemblers, watchmakers and hobbyists

CAT NO.	MAGNIFICATION POWER	FOCAL LENGTH	
		MM	INCH
AEG-1669	2 X	4.5	114
AEG-1670	2.5 X	4.0	102
AEG-1671	3 X	3.5	89
AEG-1672	3.5 X	3.0	76
AEG-1673	4 X	2.5	63
AEG-1674	4.5 X	2.25	57
AEG-1675	5 X	2.0	50
AEG-1676	7 X	1.5	38
AEG-1677	10 X	1.0	25
AEG-1679	10 X (Double lens)	1.0	25
AEG-1680	3 Pc set of 2X, 5X and 10X (double lens) eye loupes		



[114] FOLDING POCKET MAGNIFIERS LEATHER CASE

- Handy pocket magnifiers
- Ground and polished optical glass
- Leather pouch serves both as a handle and as a protective case

CAT NO.	MAGNIFICATION POWER	FOCAL LENGTH	
		INCH	CM
AEG-1698	4 X	2-1/2	6.3



[115] FOLDING POCKET MAGNIFIERS TRIPLET

- High power inspection magnifiers for machinists, laboratory technicians and students
- Made of three optical lenses
- Lens can be used in combination to produce different powers
- Swing away case of tough durable plastic

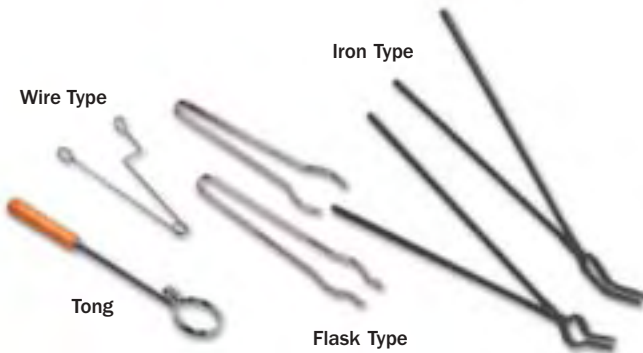
CAT NO.	MAGNIFICATION RANGE	FOCAL LENGTH	
		INCH	CM
AEG-2469	4 X, 7X, 10X	2.5, 1.5, 1.0	6, 3.8, 2.5



[116] CRUCIBLE TONGS

- Necessary item for removing or lifting crucibles or similar items, in or out of an oven
- Available in various shapes and sizes

CAT NO.	DESCRIPTION
AJT-1508	Wire type 10" (250 mm) long
AJT-1509	Iron type 20" (500 mm) long straight
AJT-1510	Iron type 20" (500 mm) long curved
AJT-1511	Flask type double end 15" (380 mm) long
AJT-1512	Flask type single end 15" (380 mm) long
AJT-1513	Tong for melting dish (supplied without melting dish) 15-3/4" (400 mm) long





117 PRECISION TWEEZERS (SWISS PATTERN)

- Made of polished stainless steel as well as non-magnetic stainless steel
- Ideally suitable for sub-miniature assemblies, jewellers and watch makers

CAT NO. FOR STAINLESS STEEL TWEEZER	CAT NO. FOR NON-MAGNETIC STAINLESS TWEEZER	PATTERN NO.	TYPE OF POINT	LENGTH	
				INCH	MM
ATW-3002	ATW-3003	No.1	Fine	4-3/4	120
ATW-3004	ATW-3005	No.2	Fine	4-3/4	120
ATW-2045	ATW-2029	No.2A	Medium	4-3/4	120
ATW-2038	ATW-3006	No.3	Very fine	4-3/4	120
ATW-2047	ATW-2036	No.3C	Very fine	4-1/2	115
ATW-2134	ATW-2040	No.4	Needle sharp	4-1/2	115
ATW-2042	ATW-2037	No.5	Needle sharp	4-1/2	115
ATW-2137	ATW-2041	No.7	Sharp	4-1/2	115
ATW-3007	ATW-3023	No.7A	Blunt	4-1/2	115
ATW-0260	ATW-2126	AA	Strong bevel	5	125
ATW-0261	ATW-3022	BB	Light, fine, hollow	4-1/2	115
ATW-3020	ATW-3021	GG	Very fine	5-1/8	130
ATW-2127	ATW-3024	HH	Fine	4-1/2	115
ATW-0262	ATW-3009	MM	Very fine	5-1/8	130
ATW-2133	ATW-3025	RR	Fine	5-1/2	140
ATW-2043	ATW-3008	OC	Fine	3-1/2	90

118 PRECISION ASSEMBLY TWEEZERS

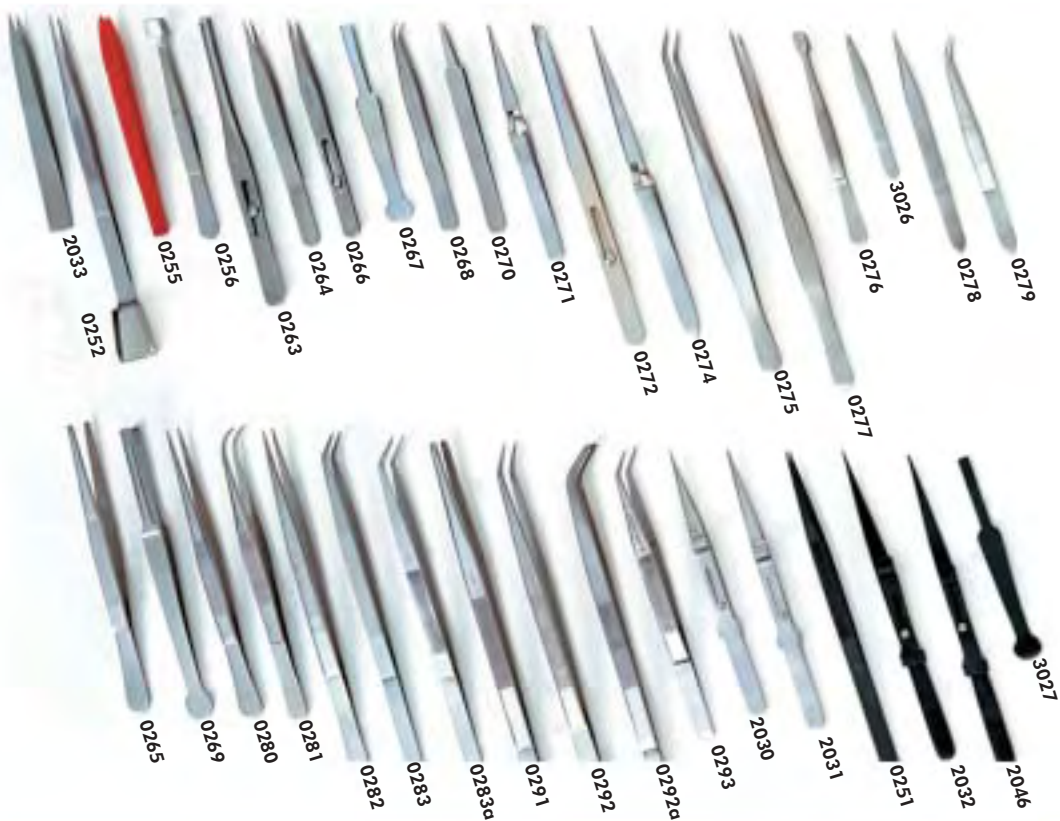
CAT NO.	TYPE OF POINT	LENGTH	
		INCH	MM
ATW-0250	Very fine	4-5/8	118
ATW-0253	Very fine	4-1/8	105
ATW-0254	Extra fine	4-1/4	108
ATW-0257	Fine curved	4-1/2	115



119

INDUSTRIAL TWEEZERS – STAINLESS STEEL

CAT NO.	STYLE INCH	LENGTH		CAT NO.	STYLE INCH	LENGTH	
		MM				MM	
ATW-2033	Straight fine point	4-1/2	115	ATW-0276	Spade point	4-1/2	115
ATW-0252	Tweezer diamond with tray	6-3/4	172	ATW-0277	Extra long straight point	6-1/2	165
ATW-0255	Tweezer plastic	4-1/2	115	ATW-3026	Straight fine point	3-1/8	80
ATW-0256	Side curved spade point	4-1/2	115	ATW-0278	Straight fine point	4-1/4	108
ATW-0263	Slide lock serrated medium point	5-3/4	145	ATW-0279	Bent fine point	4-1/4	108
ATW-0264	Strong sharp point	4-1/2	115	ATW-0265	Blunt serrated point	6	152
ATW-0266	Slide lock, medium point	4-3/4	120	ATW-0269	Soldering blunt point	6	152
ATW-0267	Soldering blunt point	4	100	ATW-0280	Straight fine point	6	152
ATW-0268	Sharp bent point	4-1/4	108	ATW-0281	Bent fine point	6	152
ATW-0270	Narrow sharp point	4-1/4	108	ATW-0282	Straight fine point	7	178
ATW-0271	Self closing, sharp point	4-3/4	120	ATW-0283	Bent fine point	7	178
ATW-0272	Slide lock, blunt point	6-1/2	165	ATW-0291	Straight fine point	8	203
ATW-0273	Light, medium sharp point	4-1/4	108	ATW-0292	Bent fine point	8	203
ATW-0274	Self closing blunt serrated point	6-1/2	165	ATW-0293	Bent point with pin	6	152
ATW-0383	Self locking bent point	6-1/2	165	ATW-2030	Fine point slide lock	5-1/2	140
ATW-0275	Extra long curved point	6-1/2	165	ATW-2031	Medium point slide lock	5-1/2	140
				ATW-0251	Fine point diamond	6-1/2	165
				ATW-2032	Medium point slide lock black	6-1/4	160
				ATW-2046	Extra fine Slide lock black	6-1/4	160
				ATW-3027	Soldering blunt point black	4	100



120 INSULATED TWEEZERS

- Stainless steel tweezers with insulation
- Available in straight and curved type

CAT NO.	STYLE	LENGTH	
		INCH	MM
ATW-0284	Self closing straight	6-1/2	165
ATW-0285	Self closing curved	6-1/2	165
ATS-0344	2 pc set consisting of one each of above styles		
ATW-3028	Medium point straight	6-1/2	165
ATW-3029	Medium point curved	6-1/2	165



121 TWEEZER SETS STAINLESS STEEL

- Stainless steel tweezers sets
- Four piece set consists of straight, bent, self locking and spade point tweezer. All tweezers are 4-1/2"/115 mm long
- Six piece set consists of 2 straight tweezer aa and mm, 1 knurled straight tweezer, 2 bent point tweezers and 1 self locking tweezer. Length varies from 5" - 7"/125 - 175 mm

CAT NO.	DESCRIPTION
ATS-0294	Set of four tweezers
ATS-0295	Set of six tweezers



OZAR

H A N D T O O L S

|122| PICKS/WAX CARVERS/SPATULAS

- Made of stainless steel
- Available in different shapes
- Very popular with hobby projects, circuit probing, wax carving, jewellers and model makers
- Available individually and also in sets in any assortments in attractive plastic pouch

CAT NO.	DESCRIPTION
ADP-1036	6 PC SET IN A POUCH CONSISTS OF 3 SINGLE END CARVERS AND 3 DOUBLE END CARVERS, APPROXIMATE LENGTH 5-1/2"-6-1/2"/140 MM-165 MM



123 FORCEPS

- Made of stainless steel
- Serrated jaws provide a vise like grip
- Box joint, highly polished

CAT NO.	LENGTH		STYLE
	INCH	MM	
ACT-1010	5	125	Straight with plastic coated handle
ACT-1011	5	125	Curved with plastic coated handle
ACT-1012	7	175	Straight with plastic coated jaws
ACT-1016	7	175	Curved
ACT-1017	7	175	Straight
ACT-1018	5	125	Curved
ACT-1019	5	125	Straight



124 ANVILS

ANVIL WITH STAND

- Steel head is set in iron base
- Head hardened and tempered
- Horn is approximately 3-3/4" (95 mm) long, 2-5/8" (65 mm) high

CAT NO.
AJT-1247

HORN ANVIL

- Heavy duty anvil
- Hardened and tempered
- Length across horns 4-1/2" (115 mm), 1-5/8" (40 mm) high

CAT NO.
AJT-1248

STEEL BENCH BLOCKS

- Case hardened steel blocks to provide solid base for work while flattening, straightening or designing
- Ground flat and smooth

CAT NO.	BLOCK SIZE	
	INCH	MM
AJT-1249	2-1/2 x 2-1/2 x 1	63 x 63 x 25
AJT-1250	4 x 4 x 3/4	100 x 100 x 19



Horn anvil



Anvil with stand



|125| DENT REMOVER

- Made of extra hard wood with 6 different size cups
- Complete with 2 wood stakes
- A simple and inexpensive method of straightening cases and removing dents
- Block size 2-1/4" (55 mm) square

CAT NO.
AJT-1226



|126| DAPPING DIE BLOCK

- Made of hardened steel with 6 working surfaces
- Contains 17 hemispherical depressions for shaping and working metal
- Size 2-1/2" x 2-1/2" x 2-1/2" (63 mm x 63 mm x 63 mm)

CAT NO.
AJT-1221



|127| RUBBER MIXING BOWLS

- Made of specially prepared flexible rubber which allows for easy mixing of investments
- Bowls are easy to clean and store
- Will not be damaged by spatula when mixing

CAT NO.	DIA		HEIGHT	
	INCH	MM	INCH	MM
AJT-1230	3	75	2-1/4	55
AJT-1231	4	100	3	75
AJT-1232	5	125	3-1/2	90
AJT-1233	6	150	6	150
AJT-1234	8	200	7	175

128 RING STRETCHER

- Simple and inexpensive tool for enlarging rings
- Can be used on any size ring, ladies or gents
- Ring is placed on the stretcher, tapered part is inserted and gently tapped to cause expansion

CAT NO.
AJT-1507



129 UNIVERSAL RING STICK

- Measures by U.S. and European ring sizes and shows diameter and circumference in millimeters
- U.S. sizes 2 to 15, graduated in quarter sizes
- 10" (250 mm) long
- Made from aluminium

CAT NO.
AJT-1264



130 3 PC JEWELLER'S KIT

- Extremely useful kit for every jeweller
- Consists of chaser hammer 1", ring stretcher and universal ring stick 10" (250 mm) long

CAT NO.
AJT-1403

